SB-V500
RMT-520

SERVICE MANUAL

AEP Model

SPECIFICATIONS

Video Inputs/Outputs

S video output (4-pin mini DIN)

Y signal	1 Vp-p, 75 ohms unbalanced, sync negative
C signal (burst signal)	0.286 Vp-p, 75 ohms unbalanced

Video inputs (phono jack)/outputs (phono jack/21-pin)

Reference signal input	1.0 Vp-p
Output level	1.0 Vp-p (75 ohms terminated)
Impedance	75 ohms
Sync	Negative
Signal-to-noise ratio	More than 48 dB
Crosstalk	More than 45 dB (3.58 MHz)

Audio Inputs/Outputs

Reference signal input	–7.5 dBs
Gain	0 dB
Input impedance	More than 47 kilohms
Output impedance	Less than 5 kilohms
Signal-to-noise ratio	More than 80 dB
Separation	More than 80 dB
Crosstalk	More than 80 dB

Others

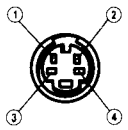
Power requirements	United Kingdom: 240 V AC, 50 Hz European countries: 220 V AC, 50 Hz
Power consumption	United Kingdom: 14 W European countries: 14 W
Dimensions	430 x 55 x 329 mm (w/h/d) (17 x 2 1/4 x 13 inches)
Weight	Approx. 3.7 kg (8 lb 3 oz)
Supplied accessories	Remote commander RMT-520 (1) SUM-3(NS) batteries (2)

Remote Commander RMT-520

Remote control system	Infrared control
Power requirements	3 V DC
Dimensions	51 x 20 x 175 mm (w/h/d) (2 1/8 x 13/16 x 7 inches)
Weight	Approx. 55 g (2 oz), not including batteries

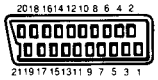
Pin assignment

S VIDEO input/output connector (4-pin)



① Chrominance signal (C)
② Luminance signal (Y)
③ Ground
④ Ground

MONITOR OUT EURO-AV connector (21-pin)



Pin No.	Composite video signal	S video signal
1	AUDIO OUT (R)	
3	AUDIO OUT (L)	
4	AUDIO COM. GND	
13	COMPOSITE VIDEO GND	S VIDEO GND
15	NC	S VIDEO CHROMA OUT
17	COMPOSITE VIDEO GND	NC
19	COMPOSITE VIDEO OUT	S VIDEO Y OUT
21	PLUG COM. SHIELD	

Design and specifications are subject to change without notice.

MICROFILM

VIDEO/AUDIO SELECTOR

SONY®

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splasher and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the B+ voltage to see it is at the values specified.

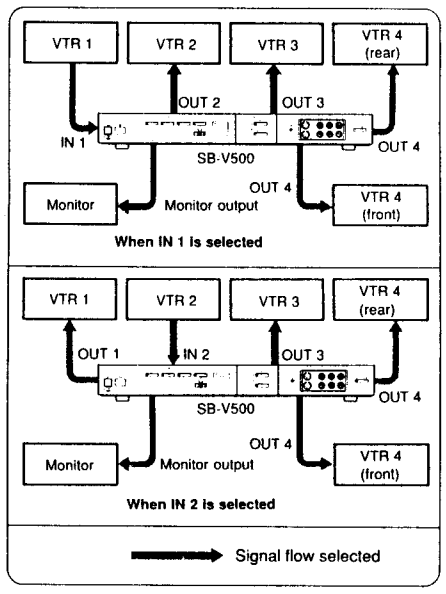
SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

Overview

The Sony SB-V500 is a video/audio selector having 4 sets of input jacks, 5 sets of output jacks, and 1set of monitor output jacks. The signal introduced via the input jack selected by the INPUT SELECT switch will be issued from the monitor output jacks and from the output jacks which do not correspond to the selected input jack.

- Dubbings from video equipment (such as a VTR) onto four different VTRs can be performed at the same time.



- There are two sets of IN/OUT 4 jacks; one on the front panel and the other at the rear. The front IN/OUT 4 jacks may be used to connect equipment which will be connected and disconnected frequently, such as a video camera recorder.
- The signal introduced via the IN 4 jacks can be issued from the OUT 4 jacks as well as from the OUT 1, 2 and 3 jacks. When a video player is connected to the IN 4 jacks, dubbings onto five different VTRs can be performed at the same time.
- A composite video signal* input to this unit is automatically transformed into a Y/C separated S video signal* when output. (A composite signal is also output.)

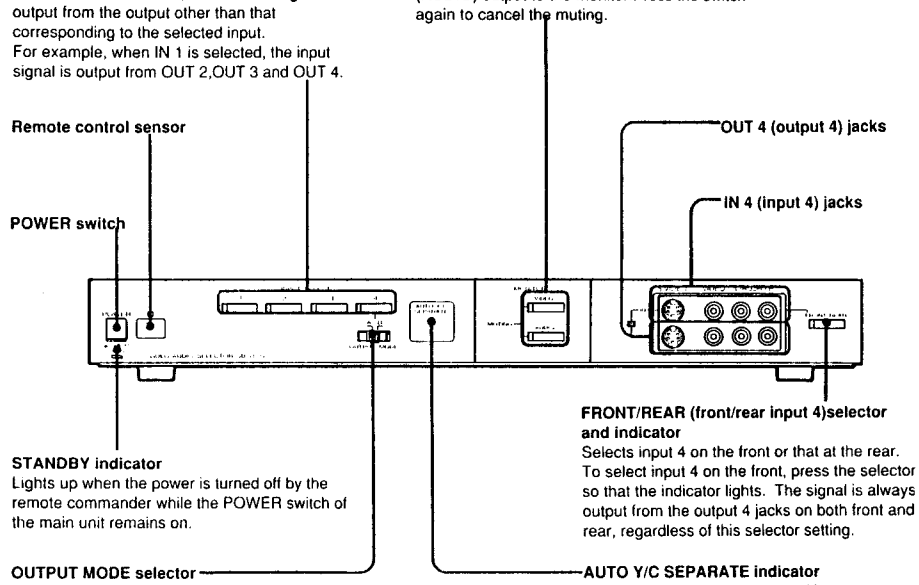
*** Composite video signal and S video signal**
The composite video signal is composed of the Y (luminance) signal and the C (color) signal. When a picture signal is input and output in the form of a composite video signal, the picture quality may be degraded by interference between the Y and C signals. The Y/C separated signal (or the S video signal) is input and output with the Y and C signals separated from each other. As a result, there is no interference between the Y and C signals, and this offers a high quality picture recording and playback.

Location and Function of Controls

Rear Panel

INPUT SELECT switches and indicators
Select the signal to be input. With the OUTPUT MODE selector set to A, the selected signal is output from the output other than that corresponding to the selected input.
For example, when IN 1 is selected, the input signal is output from OUT 2,OUT 3 and OUT 4.

MUTING switch and indicator
Press to mute the video (VIDEO) or audio (AUDIO) output to the monitor.Press the switch again to cancel the muting.


Remote control sensor
POWER switch
OUT 4 (output 4) jacks
IN 4 (input 4) jacks
STANDBY indicator
Lights up when the power is turned off by the remote commander while the POWER switch of the main unit remains on.
FRONT/REAR (front/rear input 4)selector and indicator
Selects input 4 on the front or that at the rear. To select input 4 on the front, press the selector so that the indicator lights. The signal is always output from the output 4 jacks on both front and rear, regardless of this selector setting.
OUTPUT MODE selector
Selects the output mode of the OUT 4 jacks.
Mode A: When the input 4 jacks are selected by the INPUT SELECT switch, the signal input to the IN 4 jacks is output from the OUT 1, 2 and 3 jacks as well as from the MONITOR OUT jacks.
Mode B: When the input 4 jacks are selected by the INPUT SELECT switch, the signal input to the IN 4 jacks is output also from the OUT 4 jacks.
AUTO Y/C SEPARATE indicator
Lights up when the output signal is automatically transformed into the Y/C separated S video signal.

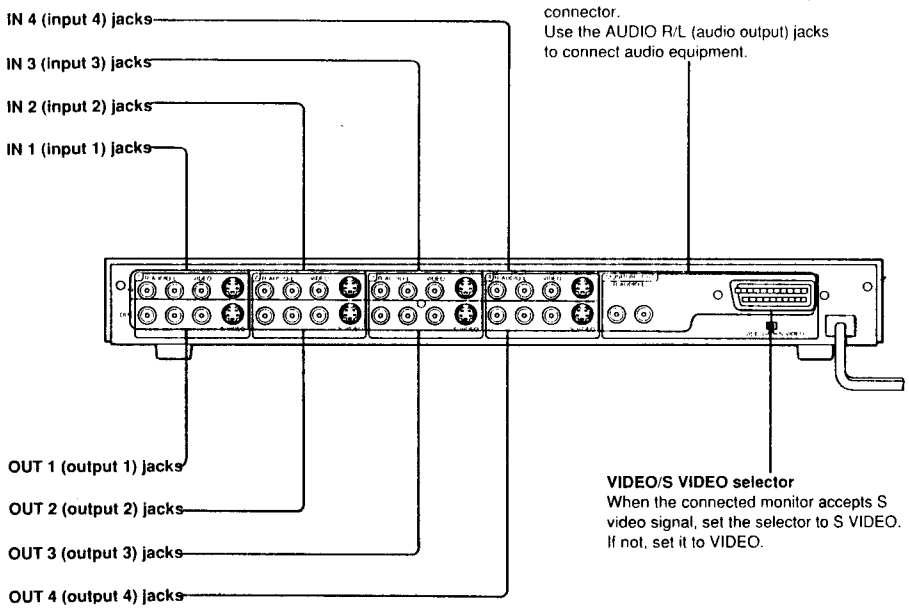
Note
When a VTR or other equipment is connected to both IN 4 and OUT 4 jacks, set the OUTPUT MODE selector to mode A. If it is set to mode B, oscillation may occur when the VTR is set to the recording mode.

This section is extracted from instruction manual.

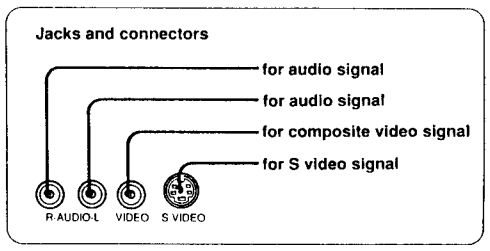
Location and Function of Controls

Rear Panel

MONITOR OUT (monitor output) connector and jacks
Connect to a color monitor with a 21-pin connector.
Use the AUDIO R/L (audio output) jacks to connect audio equipment.


IN 4 (input 4) jacks
IN 3 (input 3) jacks
IN 2 (input 2) jacks
IN 1 (input 1) jacks
OUT 1 (output 1) jacks
OUT 2 (output 2) jacks
OUT 3 (output 3) jacks
OUT 4 (output 4) jacks

VIDEO/S VIDEO selector
When the connected monitor accepts S video signal, set the selector to S VIDEO. If not, set it to VIDEO.

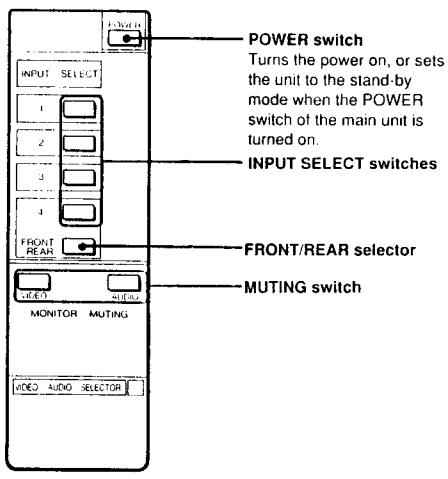


Before Connection

Remote Commander

The unit can be remotely controlled using the remote commander supplied.

Note
The following operations cannot be performed by the remote commander:
- Selecting output modes A or B
- Turning off the main unit



POWER switch
Turns the power on, or sets the unit to the stand-by mode when the POWER switch of the main unit is turned on.

INPUT SELECT switches

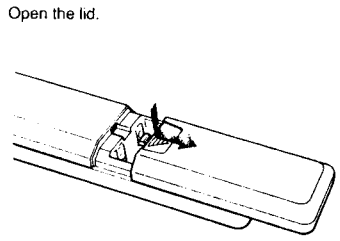
FRONT/REAR selector

MUTING switch

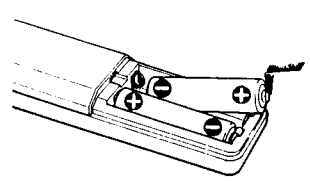
Battery life
About six months of normal operation can be expected when using the Sony SUM-3(NS) batteries. When the batteries are run down, the remote commander will not operate the unit. In this case, replace both batteries with new ones.

Installing Batteries

1 Open the lid.

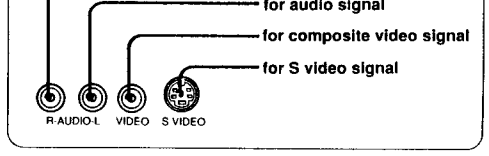


2 Install two R6 (size AA) batteries with the correct polarities, and close the lid.



Notes on the remote commander and remote control operation
- Keep the remote commander away from extremely hot or humid places.
- Avoid dropping any foreign objects into the commander casing, particularly when replacing the batteries.
- To avoid a malfunction, do not simultaneously depress two or more buttons.
- Avoid exposure of the remote sensor to direct sunlight or lighting apparatus. Such exposure can cause a malfunction.

Connection



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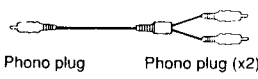
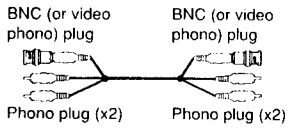
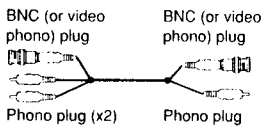
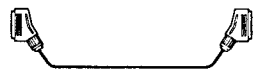
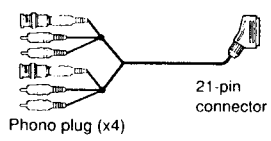
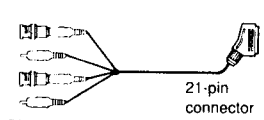
- To avoid a malfunction, do not simultaneously depress two or more buttons.
- Avoid exposure of the remote sensor to direct sunlight or lighting apparatus. Such exposure can cause a malfunction.

Before Connection

Precautions

- Plug in the AC power cord of each piece of equipment to the wall outlet after connecting all the equipment.
- Connect the connecting cord so that the color of each plug corresponds to that of the jacks on the SB-V500 and on the other equipment.

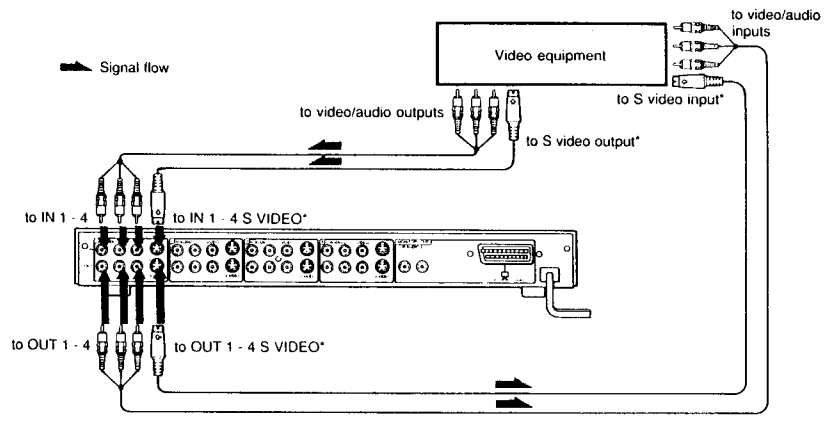
Connecting Cords Use of the following optional connecting cords is recommended

Audio input/output (mono ‹ › stereo)  RK-C71	Video and audio input/output (stereo)  VMC-810SP (1m) VMC-820SP (2m)	Video and audio input/output (stereo ‹ › mono)  VMC-910MSP (1m) VMC-920MSP (2m)
Video and audio input/output  VMC-2121CE (1.5m)	Video and audio input/output (stereo)  VMC-2106S (1.5m)	Video and audio input/output (mono ‹ › stereo)  VMC-2104MS (1.5m)

Connection

Connecting Video Equipment

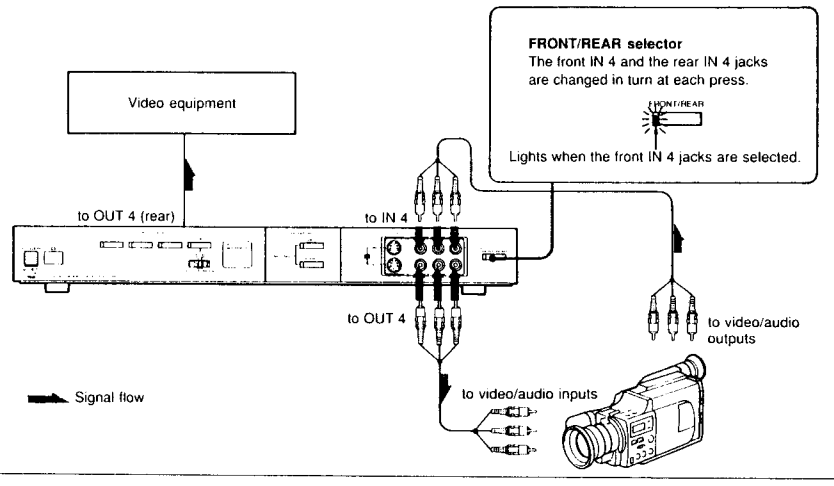
When connecting a video player (such as a videodisc player, a multi disc player and a VTR for playback only) or a TV tuner, connect it only to the IN jacks of this unit.


Signal flow
Video equipment
to video/audio inputs
to video/audio outputs
to S video input*
to S video output*
to IN 1 - 4
to IN 1 - 4 S VIDEO*
to OUT 1 - 4
to OUT 1 - 4 S VIDEO*

*Only when the connected equipment has the S video input/output jacks.

Using the IN/OUT Jacks on the Front Panel

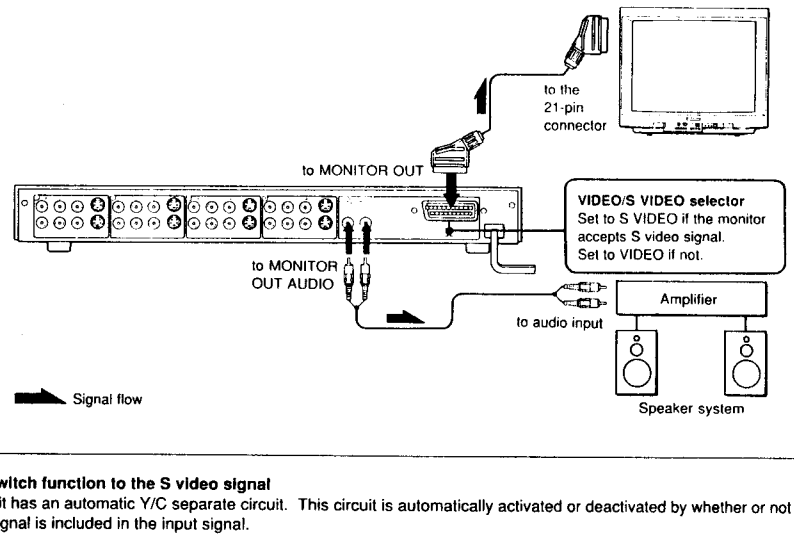
You can use the IN 4 jacks on the front or at the rear, whichever is convenient to connect the equipment. Select the jacks on the front or at the rear, using the FRONT/REAR selector on the front panel. The OUT 4 jacks on both the front and the rear issue the video/audio signal regardless of the FRONT/REAR selector setting. You can perform dubbing onto the VTRs connected to the front OUT 4 jacks and to the rear OUT 4 jacks at the same time, if the input other than 4 is selected by the INPUT SELECT switch.


FRONT/REAR selector
The front IN 4 and the rear IN 4 jacks are changed in turn at each press.
FRONT/REAR
Lights when the front IN 4 jacks are selected.
Video equipment
to OUT 4 (rear)
to IN 4
to OUT 4
to video/audio outputs
to video/audio inputs
Signal flow

Connection

Connecting a Monitor

When using a TV, you will need one with a 21-pin connector.
There is a pair of audio output jacks; use it to connect audio equipment; for example, you can record the sound using a cassette deck, or play back sound with your HiFi system.



Auto switch function to the S video signal
This unit has an automatic Y/C separate circuit. This circuit is automatically activated or deactivated by whether or not the S video signal is included in the input signal.

Input signal	Signal output from S VIDEO	Automatic Y/C separate circuit	AUTO Y/C SEPARATE indicator
S video	Signal input from the S video input jack	Deactivated	Does not light.
Composite video	Y/C separated signal out of composite video signal	Activated	Lights up.

If a monitor that accepts S video signal is connected to the unit, any picture played back in S video signal can be watched.

Selecting Output Mode of OUT 4 Jacks

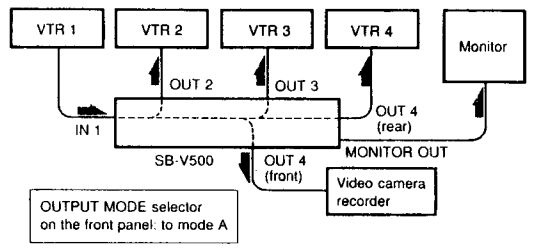
You can select either output mode A or B for the OUT 4 jacks. Use the OUTPUT MODE selector on the front panel.

In mode A
No signal is output from the OUT 4 jacks when IN 4 is selected by the INPUT SELECT switch. Normally use the unit in mode A, but if a video player (for playback only) is connected to the IN 4 jacks, the OUT 4 jacks will be left unused.

In mode B
The signal input via the IN 4 jacks will be output from the OUT 4 jacks, as well as from the OUT 1, 2 and 3 jacks. When a VTR for recording is connected to the OUT 4 jacks, you can perform dubbing onto 5 different VTRs at the same time. Or you can connect a secondary monitor to the OUT 4 jacks.

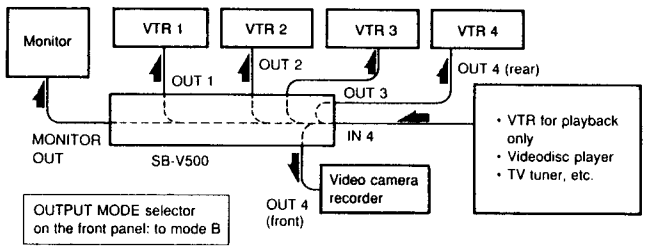
Example of mode A

Recording the playback picture of the VTR connected to IN 1, using the other three VTRs connected to OUT 2, OUT 3 and OUT 4 (rear), as well as the video camera recorder connected to OUT 4 (front).

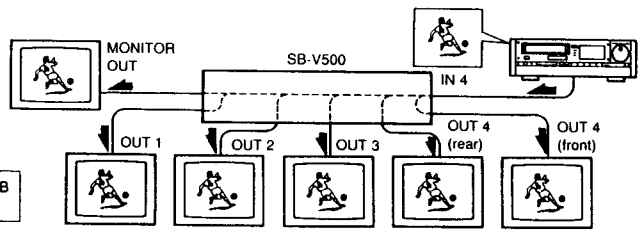


Example of mode B

Recording the playback picture of the VTR (for playback only) connected to IN 4, using five VTRs connected to OUT 1, OUT 2, OUT 3, OUT 4 (front) and OUT 4 (rear).



Using the SB-V500 as a signal distributor
Set the OUTPUT MODE selector to mode B, select the IN 4 with the INPUT SELECT switch, and use all the output jacks to connect the monitors. This will allow you to watch the playback picture of the video equipment connected to the IN 4 jacks with a maximum of six monitors.



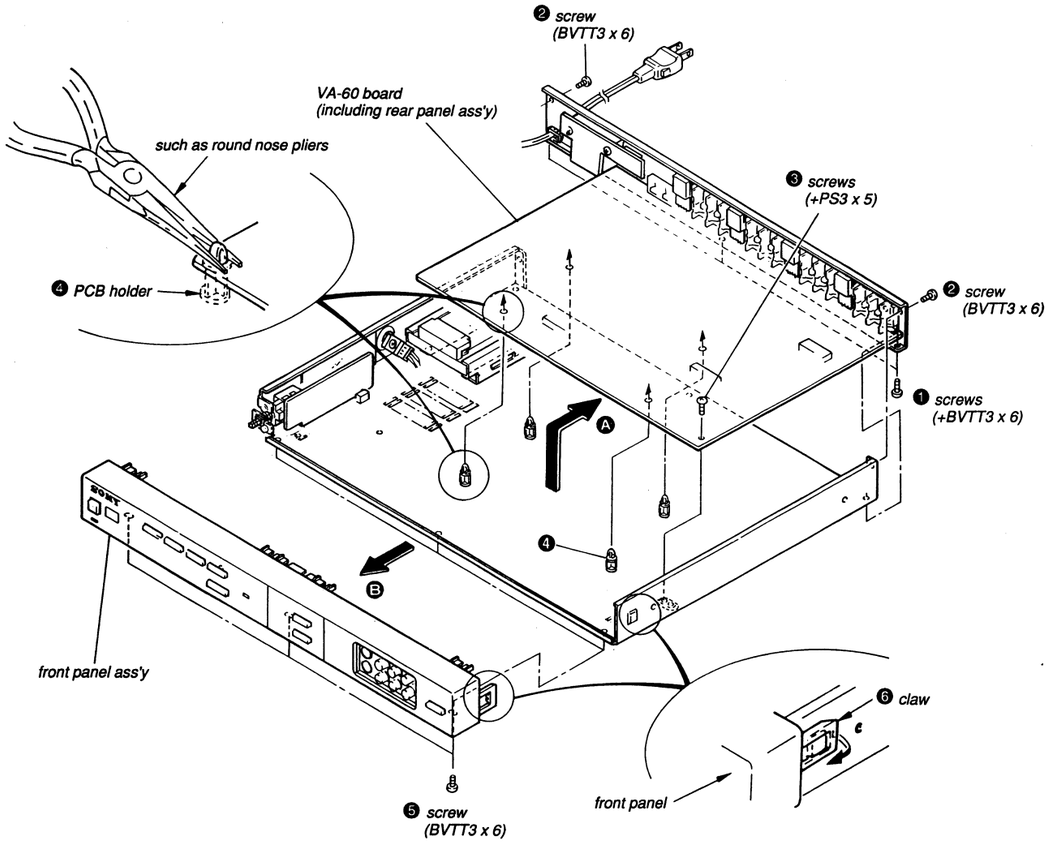
SECTION 2
DISASSENBLY

2-1. VA-60 BOARD REMOVAL

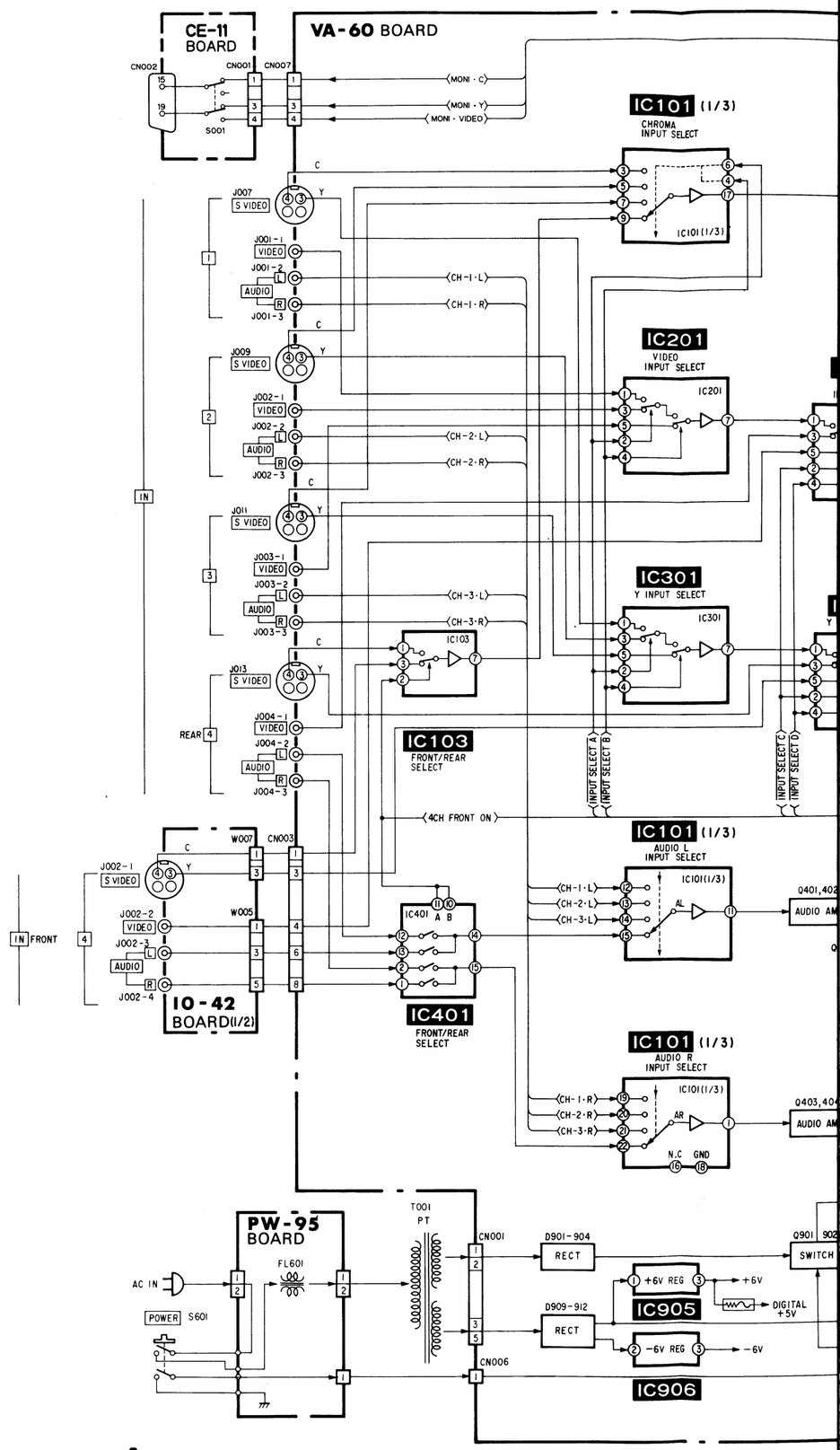
1) Remove case screws and the upper case.
2) Disconnect the connectors, CN1, CN2, CN3,CN4 and CN5 on VA-60 board.
3) Remove three screws ❶ and two screws ❷.
4) Remove one screw ❸.
5) Remove four PCB holders ❹ with round nose pliers, then remove VA-60 board in the direction of the arrow Ⓐ .

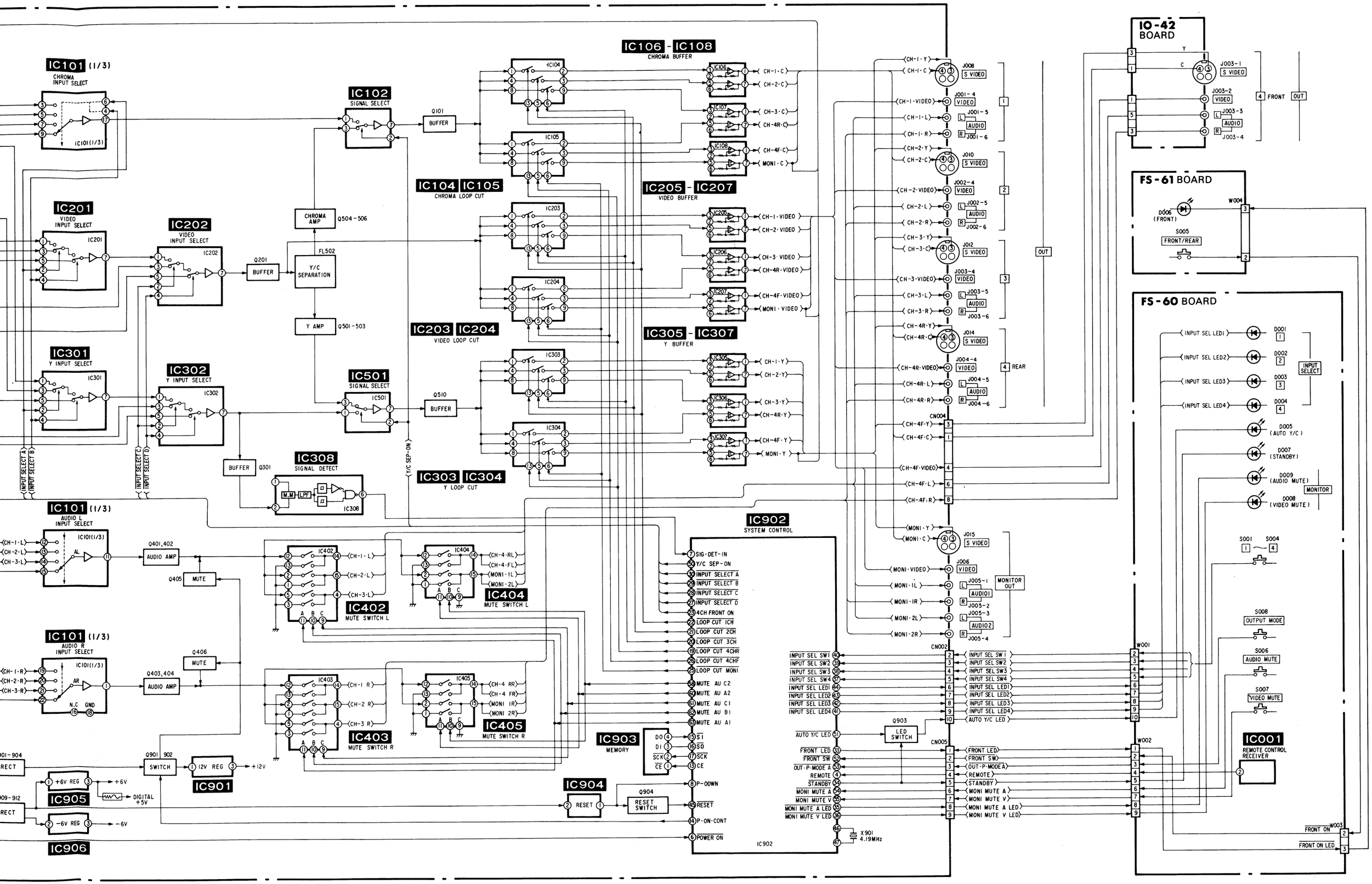
2-2. FRONT PANEL ASS'Y REMOVAL

1) Remove case screws and the upper case.
2) Disconnect the connectors, CN2, CN3, CN4 and CN5 on VA-60 board.
3) Remove three screws ❺.
4) Remove the claws ❻ on both sides of the front panel, left and right.
   Then remove the front panel ass'y in the direction of the arrow Ⓑ.



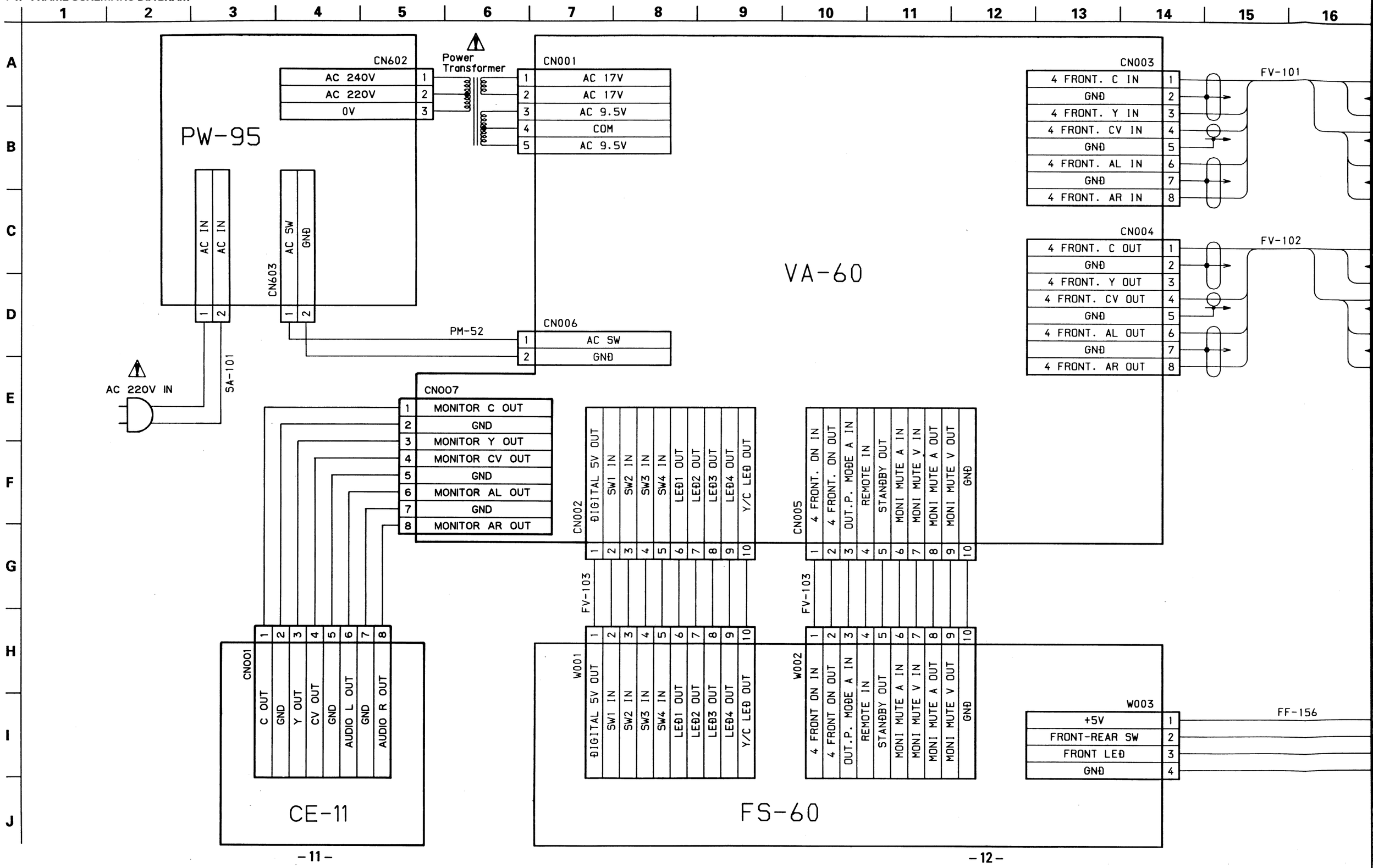
SECTION 3
BLOCK DIAGRAM

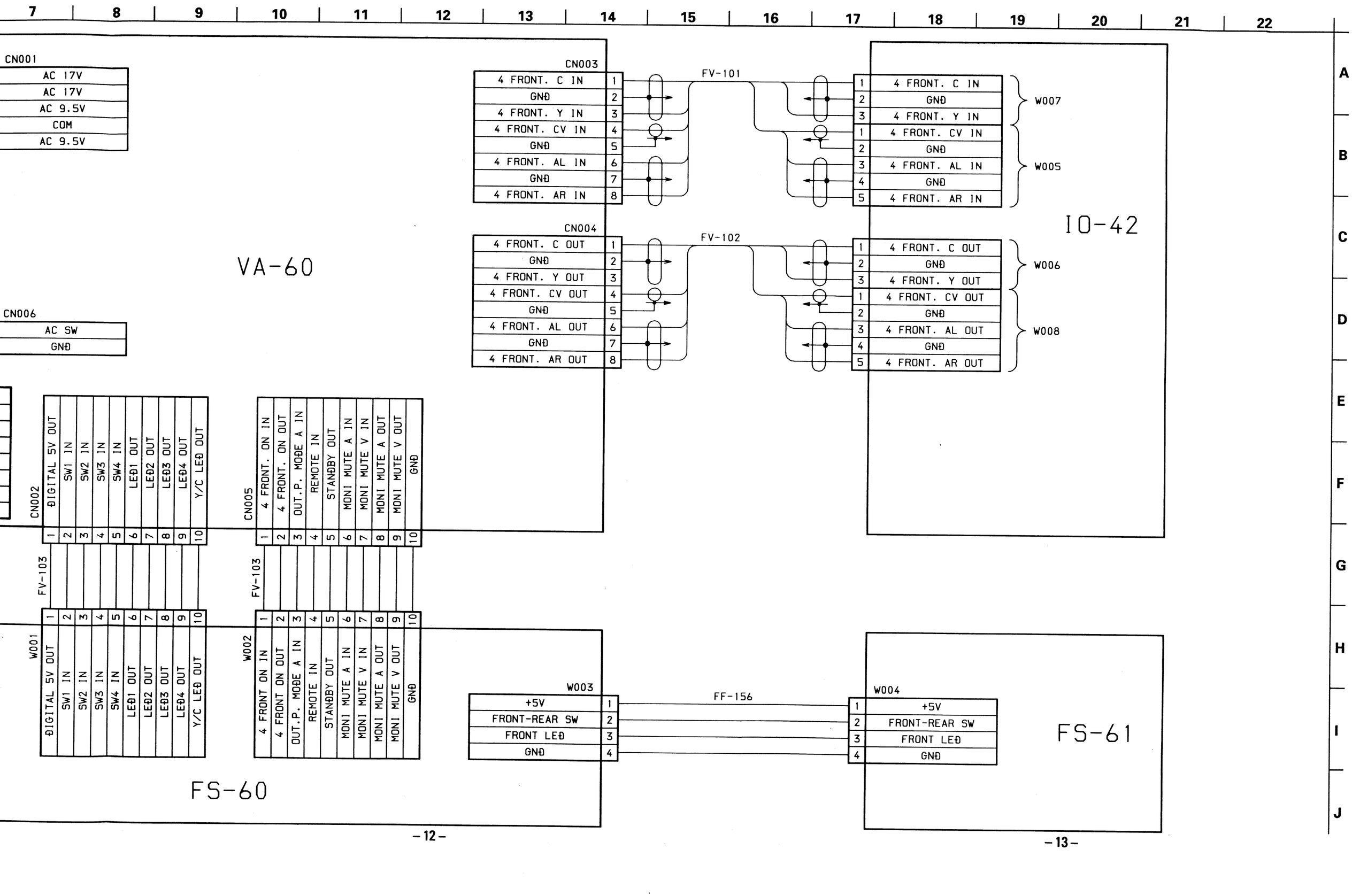



IC101 (1/3)
CHROMA INPUT SELECT
IC101(1/3)
IC102
SIGNAL SELECT
Q101
BUFFER
IC201
VIDEO INPUT SELECT
IC201
IC202
VIDEO INPUT SELECT
IC202
Q201
BUFFER
CHROMA AMP
Q504-506
FL502
Y/C SEPARATION
Y AMP
Q501-503
IC301
Y INPUT SELECT
IC301
IC302
Y INPUT SELECT
IC302
IC501
SIGNAL SELECT
IC501
Q510
BUFFER
IC308
SIGNAL DETECT
M.M
LPF
IC308
Q301
BUFFER
INPUT SELECT A
INPUT SELECT B
INPUT SELECT C
INPUT SELECT D
Y/C SEP-ON
IC106 - IC108
CHROMA BUFFER
IC104 IC105
CHROMA LOOP CUT
IC205 - IC207
VIDEO BUFFER
IC203 IC204
VIDEO LOOP CUT
IC305 - IC307
Y BUFFER
IC303 IC304
Y LOOP CUT
IC902
SYSTEM CONTROL
SIG·DET-IN
Y/C SEP-ON
INPUT SELECT A
INPUT SELECT B
INPUT SELECT C
INPUT SELECT D
4CH FRONT ON
LOOP CUT 1CH
LOOP CUT 2CH
LOOP CUT 3CH
LOOP CUT 4CHR
LOOP CUT 4CHF
LOOP CUT MONI
MUTE AU C2
MUTE AU A2
MUTE AU C1
MUTE AU B1
MUTE AU A1
P-ODWN
RESET
P·ON·CONT
POWER ON
IC101 (1/3)
AUDIO L INPUT SELECT
IC101(1/3)
Q401,402
AUDIO AMP
Q405
MUTE
IC402
MUTE SWITCH L
IC404
MUTE SWITCH L
IC101 (1/3)
AUDIO R INPUT SELECT
IC101(1/3)
Q406
MUTE
Q403,404
AUDIO AMP
IC403
MUTE SWITCH R
IC405
MUTE SWITCH R
IC903
MEMORY
DO
DI
SCK
CE
SI
SO
SCK
CE
IC904
RESET
Q904
RESET SWITCH
Q901 902
SWITCH
12V REG
+12V
IC901
+6V REG
+6V
IC905
DIGITAL +5V
-6V REG
-6V
IC906
Q903
LED SWITCH
X901
4.19MHz
CN002
CN004
CN005
J008 S VIDEO
J001-4 VIDEO
J001-5 L AUDIO
J001-6 R
J010 S VIDEO
J002-4 VIDEO
J002-5 L AUDIO
J002-6 R
J012 S VIDEO
J003-4 VIDEO
J003-5 L AUDIO
J003-6 R
J014 S VIDEO
J004-4 VIDEO
J004-5 L AUDIO
J004-6 R
J015 S VIDEO
J006 VIDEO
J005-1 L AUDIO1
J005-2 R
J005-3 L AUDIO2
J005-4 R
MONITOR OUT
OUT
1
2
3
4 REAR
IO-42 BOARD
J003-1 S VIDEO
J003-2 VIDEO
J003-3 L AUDIO
J003-4 R
4 FRONT OUT
FS-61 BOARD
D006 (FRONT)
S005 FRONT/REAR
W004
FS-60 BOARD
D001
D002
D003
D004
INPUT SELECT
D005 (AUTO Y/C)
D007 (STANDBY)
D009 (AUDIO MUTE)
D008 (VIDEO MUTE)
MONITOR
S001 S004
S008 OUTPUT MODE
S006 AUDIO MUTE
S007 VIDEO MUTE
IC001 REMOTE CONTROL RECEIVER
W001
W002
W003
FRONT ON
FRONT ON LED

SECTION 4
PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAM

4-1. FRAME SCHEMATIC DIAGRAM




7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
A
B
C
D
E
F
G
H
I
J
CN001
AC 17V
AC 17V
AC 9.5V
COM
AC 9.5V
CN006
AC SW
GND
VA-60
CN003
4 FRONT. C IN 1
GND 2
4 FRONT. Y IN 3
4 FRONT. CV IN 4
GND 5
4 FRONT. AL IN 6
GND 7
4 FRONT. AR IN 8
FV-101
CN004
4 FRONT. C OUT 1
GND 2
4 FRONT. Y OUT 3
4 FRONT. CV OUT 4
GND 5
4 FRONT. AL OUT 6
GND 7
4 FRONT. AR OUT 8
FV-102
IO-42
1 4 FRONT. C IN
2 GND
3 4 FRONT. Y IN
W007
1 4 FRONT. CV IN
2 GND
3 4 FRONT. AL IN
W005
4 GND
5 4 FRONT. AR IN
1 4 FRONT. C OUT
2 GND
3 4 FRONT. Y OUT
W006
1 4 FRONT. CV OUT
2 GND
3 4 FRONT. AL OUT
W008
4 GND
5 4 FRONT. AR OUT
CN002
1 DIGITAL 5V OUT
2 SW1 IN
3 SW2 IN
4 SW3 IN
5 SW4 IN
6 LED1 OUT
7 LED2 OUT
8 LED3 OUT
9 LED4 OUT
10 Y/C LED OUT
FV-103
W001
1 DIGITAL 5V OUT
2 SW1 IN
3 SW2 IN
4 SW3 IN
5 SW4 IN
6 LED1 OUT
7 LED2 OUT
8 LED3 OUT
9 LED4 OUT
10 Y/C LED OUT
CN005
1 4 FRONT. ON IN
2 4 FRONT. ON OUT
3 OUT.P. MODE A IN
4 REMOTE IN
5 STANDBY OUT
6 MONI MUTE A IN
7 MONI MUTE V IN
8 MONI MUTE A OUT
9 MONI MUTE V OUT
10 GND
FV-103
W002
1 4 FRONT ON IN
2 4 FRONT ON OUT
3 OUT.P. MODE A IN
4 REMOTE IN
5 STANDBY OUT
6 MONI MUTE A IN
7 MONI MUTE V IN
8 MONI MUTE A OUT
9 MONI MUTE V OUT
10 GND
FS-60
W003
+5V 1
FRONT-REAR SW 2
FRONT LED 3
GND 4
FF-156
W004
1 +5V
2 FRONT-REAR SW
3 FRONT LED
4 GND
FS-61

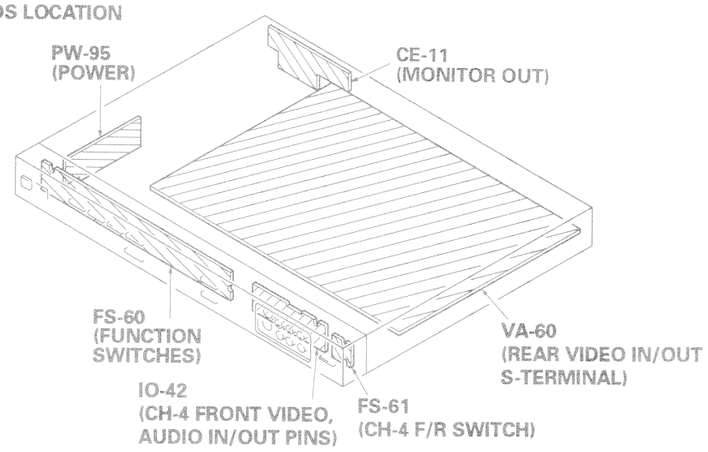
4-2. VA-60 (VIDEO, AUDIO, S VIDEO IN/OUT) PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM

– Ref. No. VA-60 BOARD: 1,000 series –

Note:

- ○— : indicates a lead wire mounted on the component side.
- ▒▒ : conductor side.

- **CIRCUIT BOARDS LOCATION**



Note on Schematic Diagram

- All resistors are in ohms, 1/4W unless otherwise noted. kΩ: 1000Ω, MΩ: 1000kΩ.
- All capacitors are in μF unless otherwise noted. pF: μμF 50V or less are not indicated except for electrolytics and tantalums.
- ▭ : nonflammable resistor.
- ▭ : fusible resistor.
- ▭ : panel designation.
- ▬ : B + line
- ▬ ▬ : B – line
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken with a color-bar signal input.
- Readings are taken with a digital multimeter (DC10MΩ).
- Voltages are dc between ground and measurement points unless otherwise noted.

- Switch positions on voltage measurement and signal path.

  INPUT SELECT: CH-4
  CH-4 FRONT/REAR: FRONT
  MONITOR SELECT: CH-4
  OUTPUT MODE: LINE

- **Signal path**

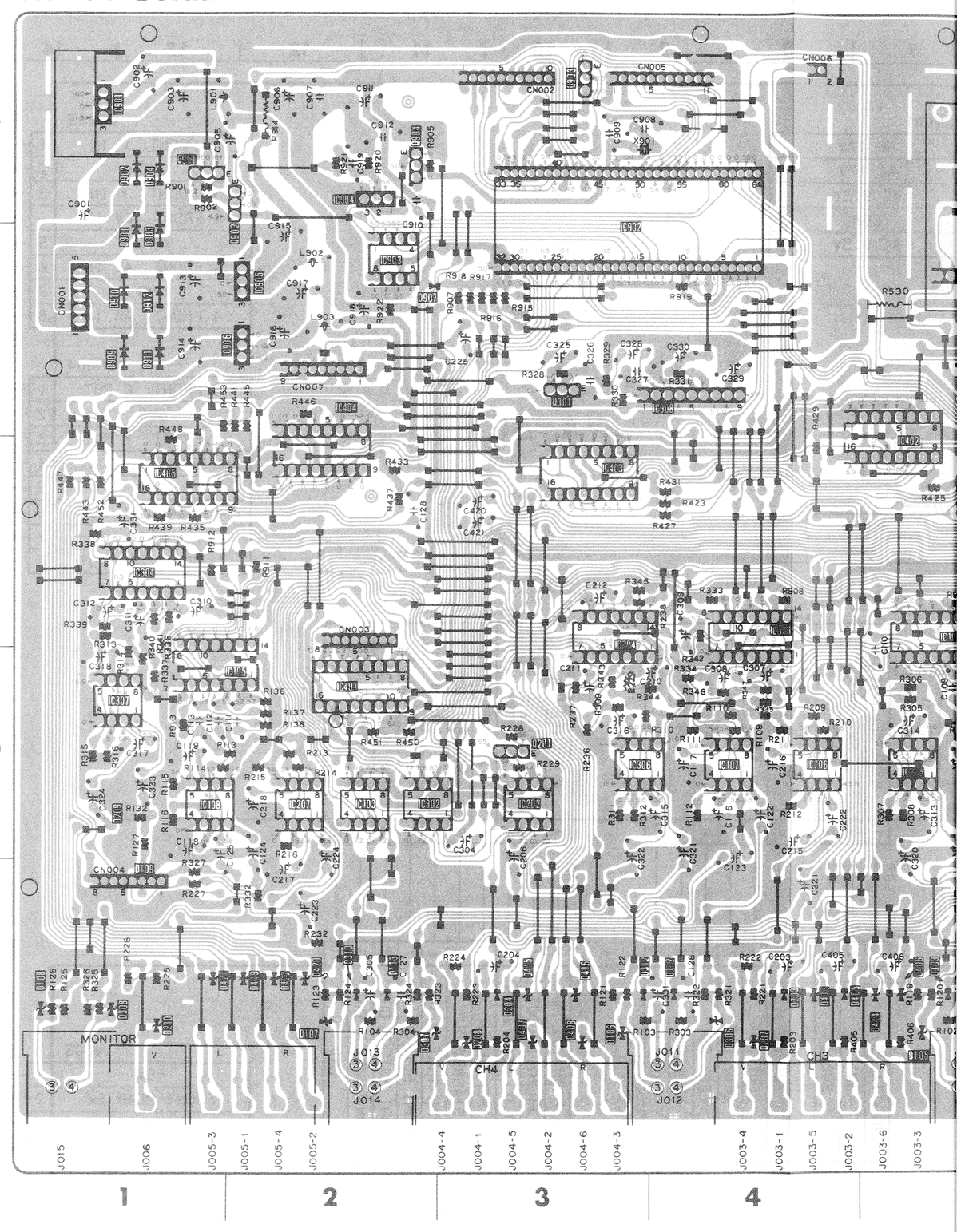
  ⇒ : Y Signal
  ⇨ : CHROMA Signal
  ⇒ : Y/CHROMA Signal
  ⇨ : AUDIO Signal
  ⇨ : Flowing direction of B line

Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

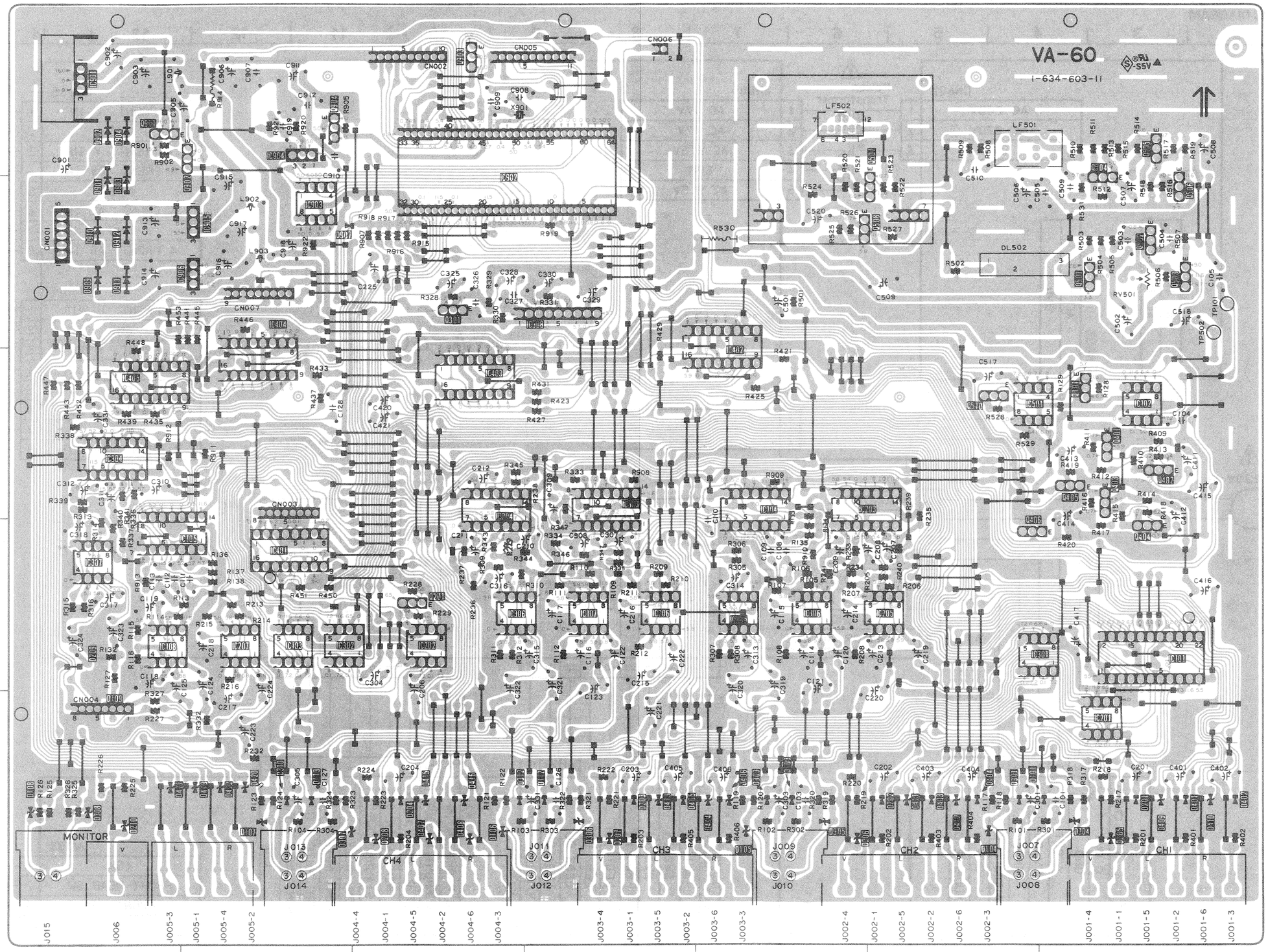
When indicating parts by reference number, please include the board name.

CONNECTOR		DIODE D		IC	
CN001	B-1	D101	E-6	IC101	D-7
CN002	A-3	D103	E-5	IC102	C-7
CN003	C-2	D104	E-6	IC103	D-2
CN004	E-1	D105	E-5	IC104	C-5
CN005	A-3	D106	E-3	IC105	D-1
CN006	A-4	D107	E-2	IC106	D-5
CN007	B-2	D108	E-1	IC107	D-4
		D109	E-1	IC108	D-1
		D112	E-4	IC201	E-7
		D113	E-2	IC202	D-3
		D201	E-7	IC203	C-6
		D202	E-6	IC204	C-3
		D203	E-4	IC205	D-6
		D204	E-3	IC206	D-4
		D205	E-7	IC207	D-2
		D206	E-5	IC301	D-7
		D207	E-4	IC302	D-2
		D208	E-3	IC303	C-4
		D209	D-1	IC304	C-1
		D210	E-1	IC305	D-5
		D301	E-6	IC306	D-3
		D303	E-5	IC307	D-1
		D304	E-7	IC308	B-4
		D305	E-5	IC401	D-2
		D306	E-4	IC402	C-5
		D307	E-2	IC403	C-3
		D308	E-1	IC404	C-2
		D310	E-2	IC405	C-1
		D312	E-3	IC501	C-6
		D401	E-7	IC901	A-1
		D402	E-7	IC902	A-3
		D403	E-6	IC903	B-2
		D404	E-6	IC904	A-2
		D405	E-4	IC905	B-2
		D406	E-5	IC906	B-2
		D407	E-3		
		D408	E-3	TRANSISTOR Q	
		D409	E-7		
		D410	E-7	Q101	C-7
		D411	E-6	Q201	D-3
		D412	E-6	Q301	B-3
		D413	E-4	Q401	C-7
		D414	E-5	Q402	C-7
		D415	E-3	Q403	C-7
		D416	E-3	Q404	D-7
		D419	E-2	Q405	C-7
		D420	E-2	Q406	D-6
		D421	E-1	Q501	B-7
		D422	E-2	Q502	B-7
		D901	B-1	Q503	B-7
		D902	A-1	Q504	B-7
		D903	B-1	Q505	A-7
		D904	A-1	Q506	B-7
		D907	B-2	Q507	B-6
		D909	B-1	Q508	B-6
		D910	B-1	Q510	C-6
		D911	B-1	Q901	A-1
		D912	B-1	Q902	A-2
				Q903	A-3
				Q904	A-2

VA–60 BOARD

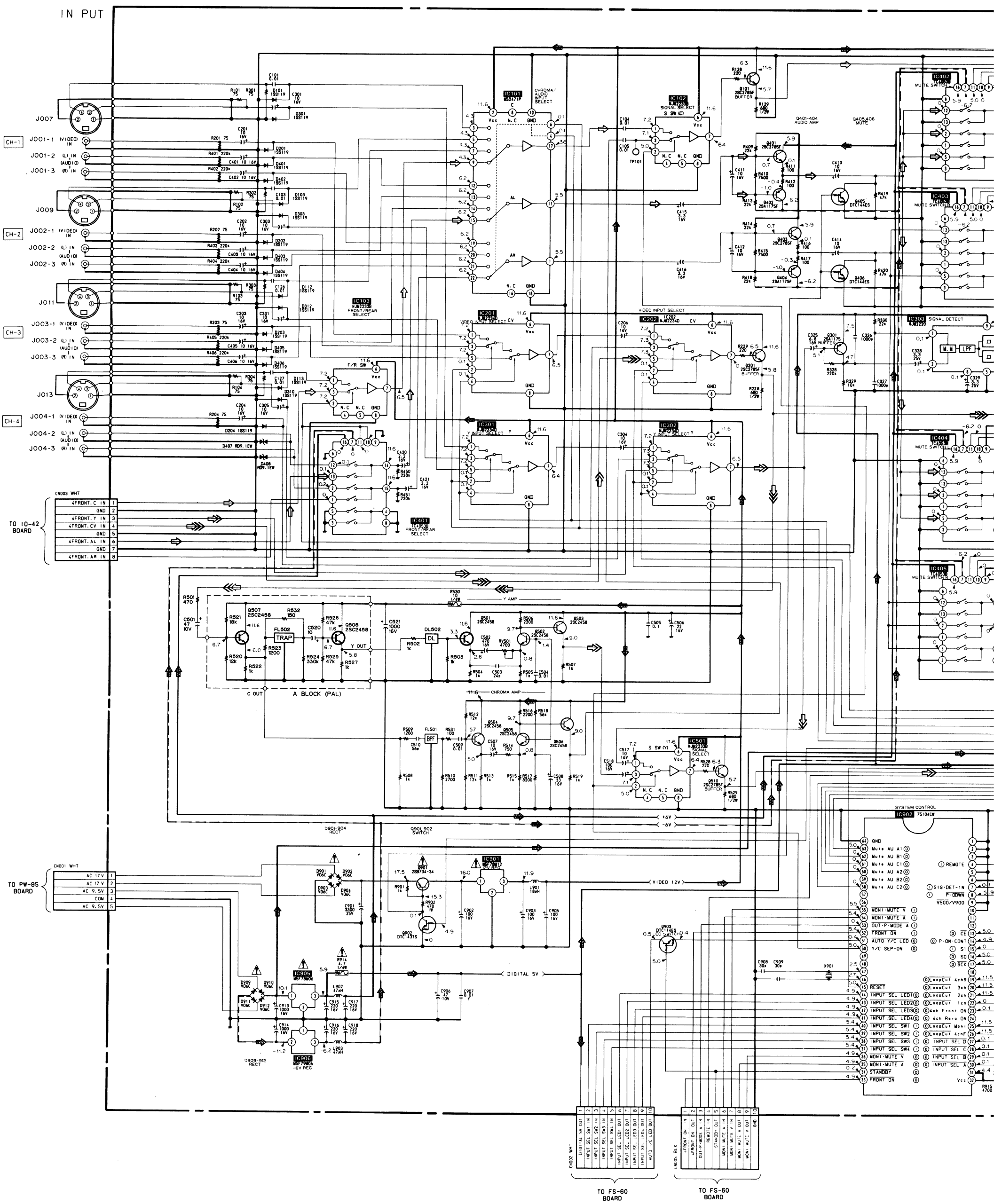


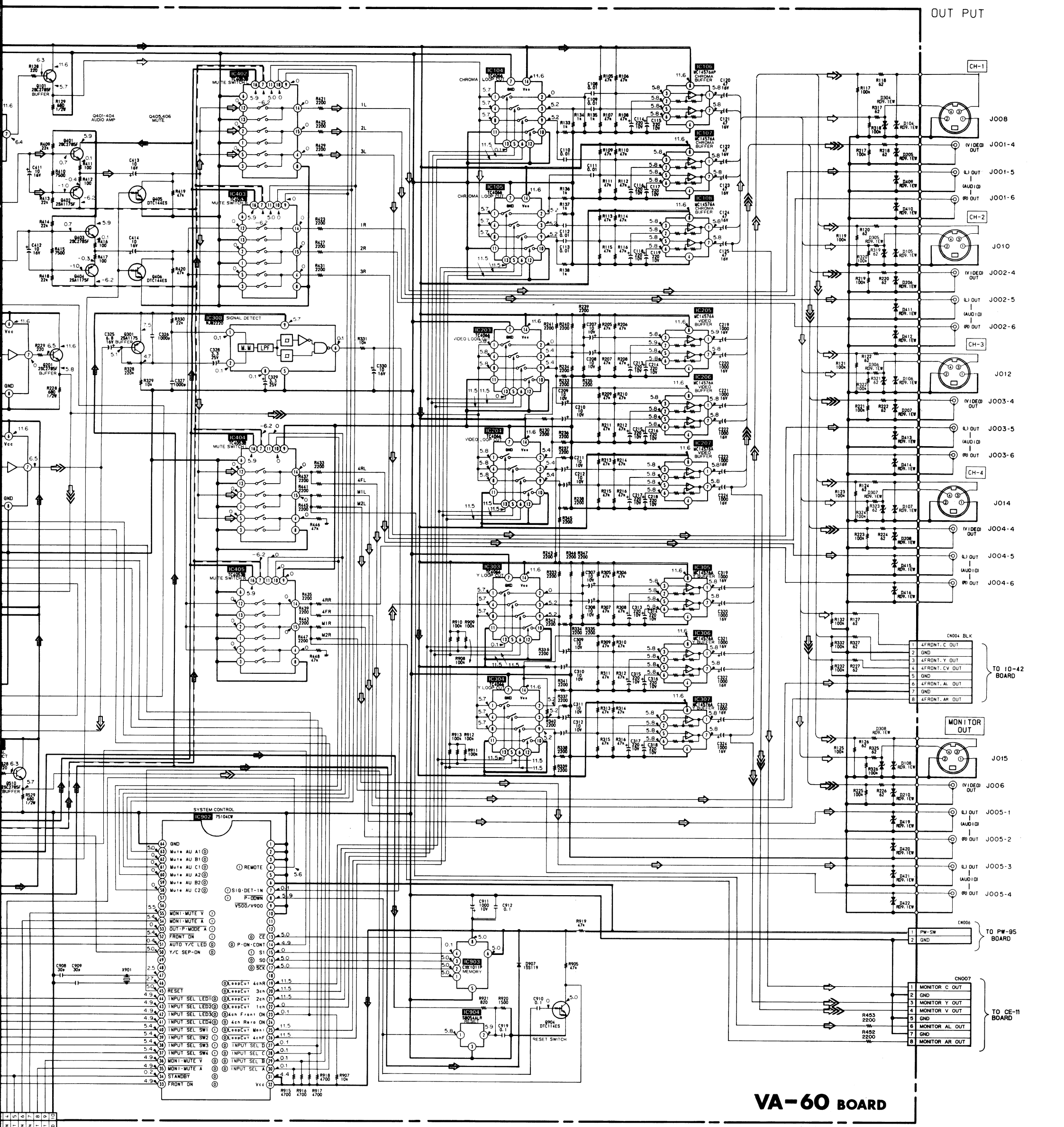
VA-60 BOARD


VA-60
1-634-603-11
A
B
C
D
E
1
2
3
4
5
6
7
MONITOR
CH4
CH3
CH2
CH1
J015
J006
J005-3
J005-1
J005-4
J005-2
J004-4
J004-1
J004-5
J004-2
J004-6
J004-3
J003-4
J003-1
J003-5
J003-2
J003-6
J003-3
J002-4
J002-1
J002-5
J002-2
J002-6
J002-3
J001-4
J001-1
J001-5
J001-2
J001-6
J001-3

4-2. VA-60 (VIDEO, AUDIO, S VIDEO INPUT) PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM

– Ref. No. VA-60 BOARD: 1,000 series –



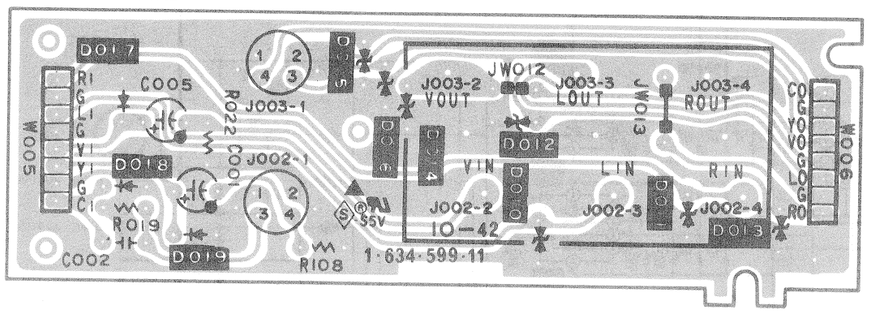

OUT PUT
IC402 MUTE SWITCH
IC403 MUTE SWITCH
IC404 MUTE SWITCH
IC405 MUTE SWITCH
IC104 CHROMA LOOP OUT
IC105 CHROMA LOOP OUT
IC106 CHROMA BUFFER
IC107 CHROMA BUFFER
IC108 CHROMA BUFFER
IC203 VIDEO LOOP OUT
IC204 VIDEO LOOP OUT
IC205 VIDEO BUFFER
IC206 VIDEO BUFFER
IC207 VIDEO BUFFER
IC303 Y LOOP OUT
IC304 Y LOOP OUT
IC305 Y BUFFER
IC306 Y BUFFER
IC307 Y BUFFER
IC308 SIGNAL DETECT
IC902 SYSTEM CONTROL
IC903 MEMORY
IC904 RESET
Q401-404 AUDIO AMP
Q405,406 MUTE
CH-1
CH-2
CH-3
CH-4
J008
J001-4
J001-5
J001-6
J010
J002-4
J002-5
J002-6
J012
J003-4
J003-5
J003-6
J014
J004-4
J004-5
J004-6
J015
J006
J005-1
J005-2
J005-3
J005-4
CN004 BLK
1 4FRONT. C OUT
2 GND
3 4FRONT. Y OUT
4 4FRONT. CV OUT
5 GND
6 4FRONT. AL OUT
7 GND
8 4FRONT. AR OUT
TO 10-42 BOARD
MONITOR OUT
CN006
1 PW-SW
2 GND
TO PW-95 BOARD
CN007
1 MONITOR C OUT
2 GND
3 MONITOR Y OUT
4 MONITOR V OUT
5 GND
6 MONITOR AL OUT
7 GND
8 MONITOR AR OUT
TO CE-11 BOARD
RESET SWITCH
REMOTE IN
STANDBY OUT
MONI MUTE A IN
MONI MUTE V IN
MONI MUTE A OUT
MONI MUTE V OUT
GND
TO FS-60 BOARD
VA-60 BOARD

FS-60 (FUNCTIONSWITCHES), FS-61 (CH-4 F/R SWITCH), IO-42 (CH-4 FRONT VIDEO, AUDIO IN/OUT PINS), PW-95 (POWER) PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.

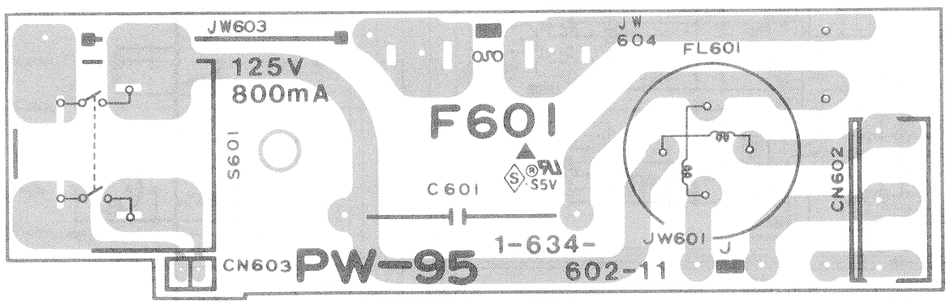
–Ref. No. FS-60, FS-61, IO-42, PW-95 BOARD: 2,000series–

–Ref. No CE-11 BOARD: 3,000 series–

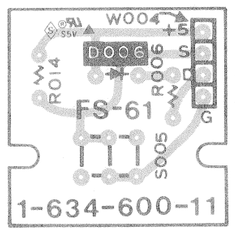
IO-42 BOARD



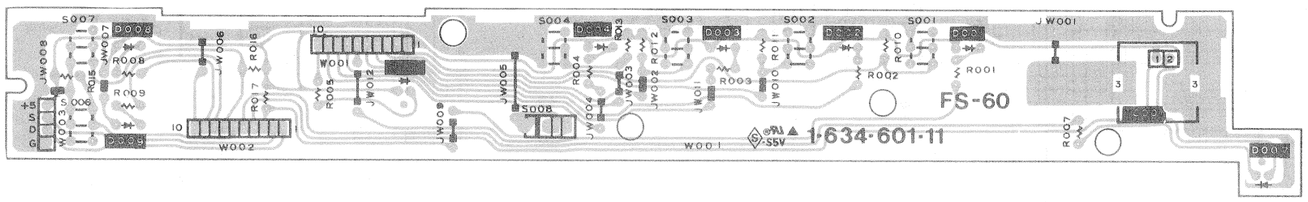
PW-95 BOARD



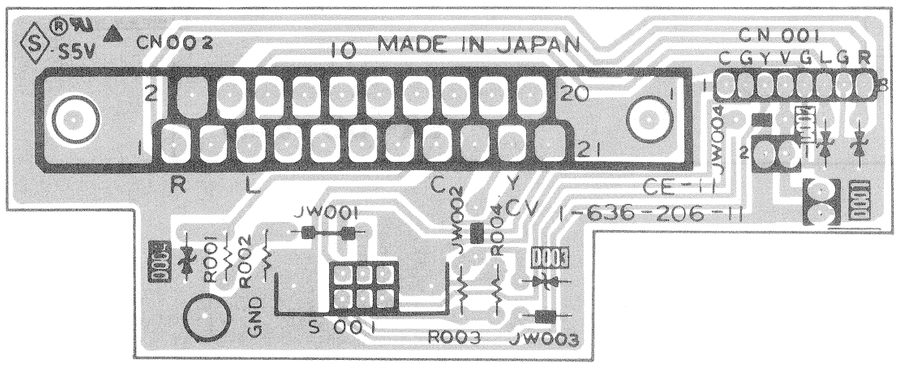
FS-61 BOARD

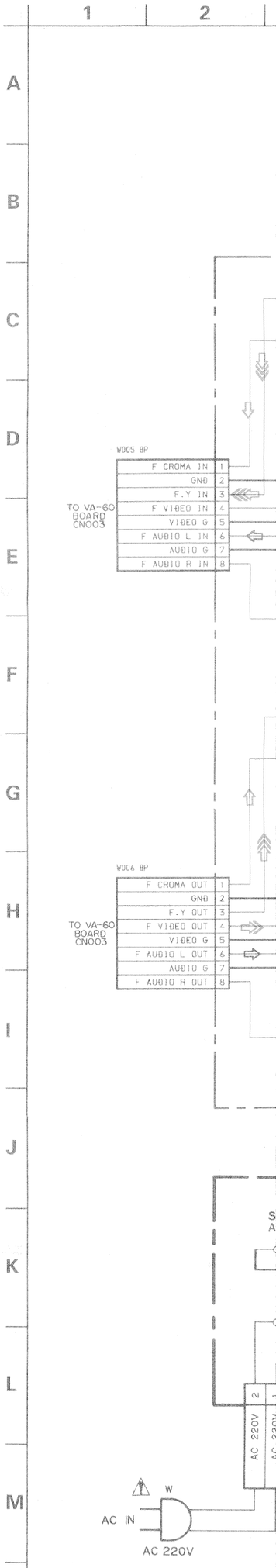


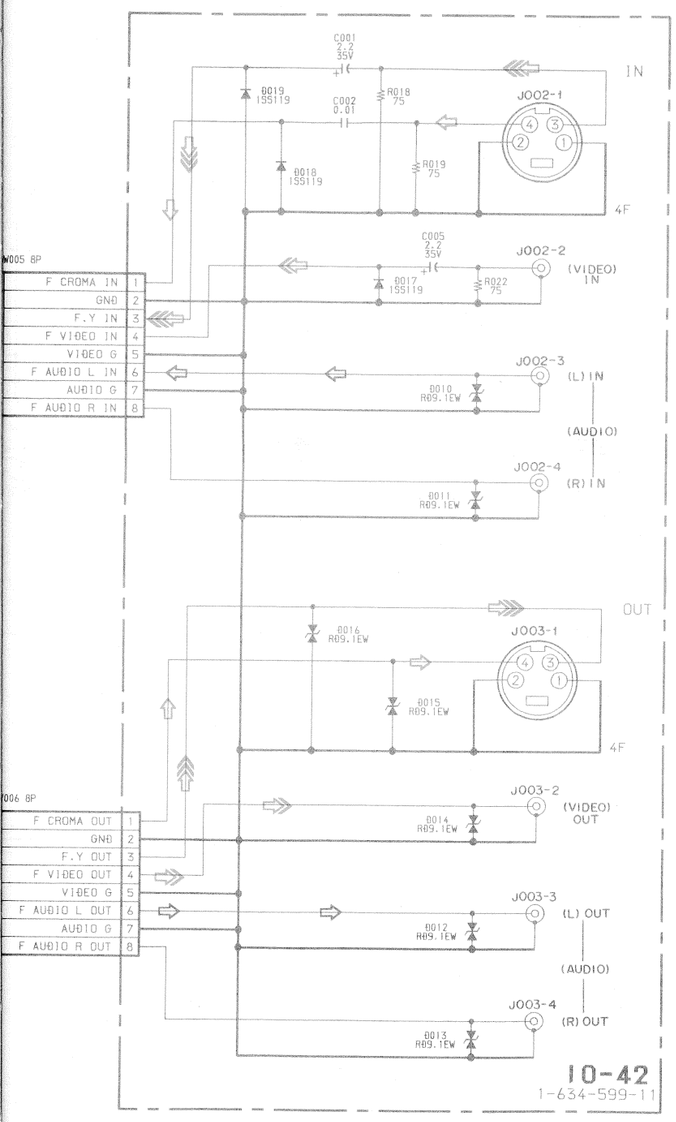
FS-60 BOARD

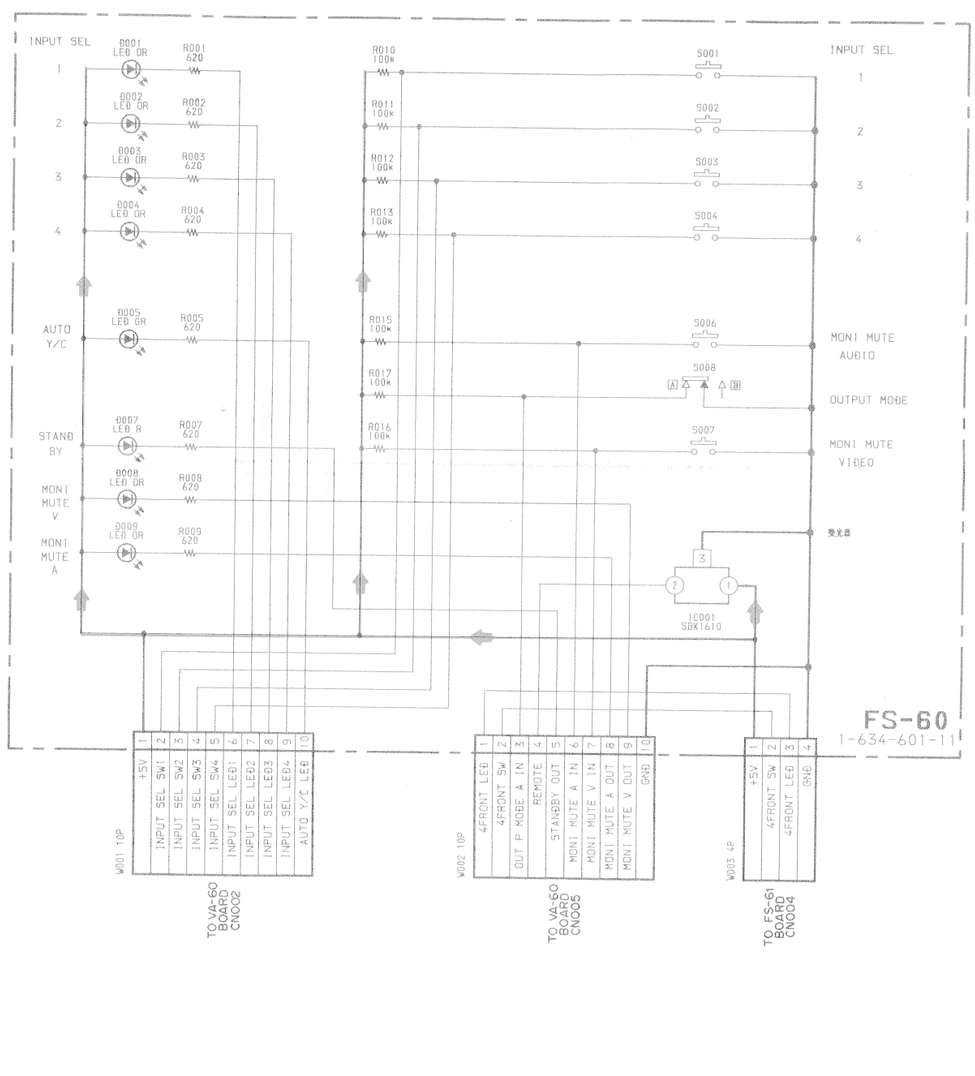


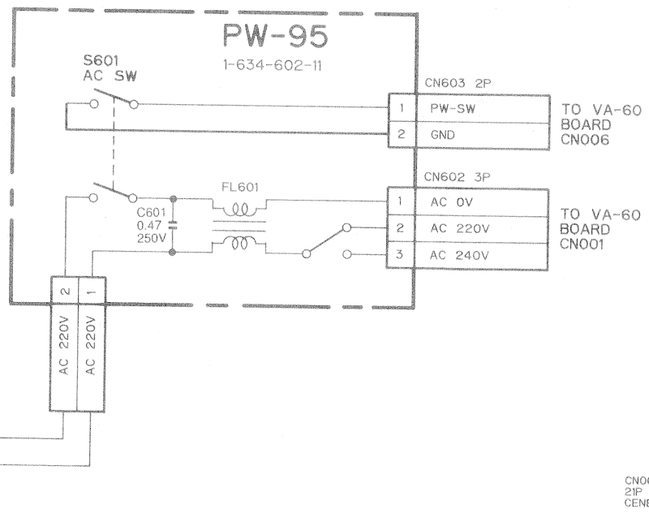
CE-11 BOARD

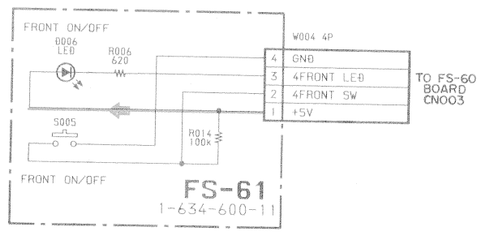


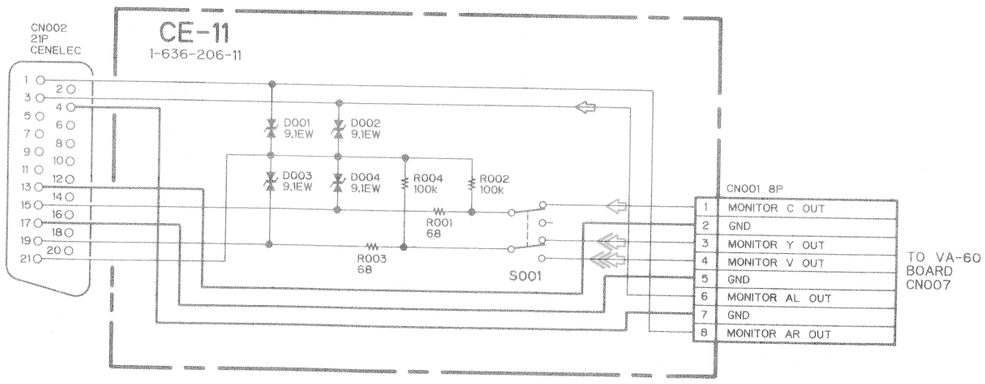



C001 2.2 35V
D019 1SS119
C002 0.01
R018 75
J002-1
IN
D018 1SS119
R019 75
4F
W005 8P
C005 2.2 35V
J002-2
(VIDEO) IN
D017 1SS119
R022 75
F CROMA IN 1
GND 2
F.Y IN 3
F VIDEO IN 4
VIDEO G 5
F AUDIO L IN 6
AUDIO G 7
F AUDIO R IN 8
J002-3
(L) IN
D010 R09.1EW
(AUDIO)
J002-4
(R) IN
D011 R09.1EW
OUT
D016 R09.1EW
J003-1
D015 R09.1EW
4F
W006 8P
J003-2
(VIDEO) OUT
D014 R09.1EW
F CROMA OUT 1
GND 2
F.Y OUT 3
F VIDEO OUT 4
VIDEO G 5
F AUDIO L OUT 6
AUDIO G 7
F AUDIO R OUT 8
J003-3
(L) OUT
D012 R09.1EW
(AUDIO)
J003-4
(R) OUT
D013 R09.1EW
IO-42
1-634-599-11


INPUT SEL
D001 LED OR
R001 620
D002 LED OR
R002 620
D003 LED OR
R003 620
D004 LED OR
R004 620
AUTO Y/C
D005 LED GR
R005 620
STAND BY
D007 LED R
R007 620
MONI MUTE V
D008 LED OR
R008 620
MONI MUTE A
D009 LED OR
R009 620
R010 100k
R011 100k
R012 100k
R013 100k
R015 100k
R017 100k
R016 100k
S001
S002
S003
S004
S006
S008
S007
INPUT SEL
1
2
3
4
MONI MUTE AUDIO
OUTPUT MODE
MONI MUTE VIDEO
受光器
IC001 SBX1610
FS-60
1-634-601-11
W001 10P
+5V 1
INPUT SEL SW1 2
INPUT SEL SW2 3
INPUT SEL SW3 4
INPUT SEL SW4 5
INPUT SEL LED1 6
INPUT SEL LED2 7
INPUT SEL LED3 8
INPUT SEL LED4 9
AUTO Y/C LED 10
TO VA-60 BOARD CN002
W002 10P
4FRONT LED 1
4FRONT SW 2
OUT P MODE A IN 3
REMOTE 4
STANDBY OUT 5
MONI MUTE A IN 6
MONI MUTE V IN 7
MONI MUTE A OUT 8
MONI MUTE V OUT 9
GND 10
TO VA-60 BOARD CN005
W003 4P
+5V 1
4FRONT SW 2
4FRONT LED 3
GND 4
TO FS-61 BOARD CN004

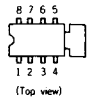

PW-95
1-634-602-11
S601
AC SW
CN603 2P
1 PW-SW
2 GND
TO VA-60 BOARD CN006
FL601
C601 0.47 250V
CN602 3P
1 AC 0V
2 AC 220V
3 AC 240V
TO VA-60 BOARD CN001
2 AC 220V
1 AC 220V
W
IN
AC 220V


FRONT ON/OFF
D006 LED
R006 620
S005
R014 100k
FRONT ON/OFF
FS-61
1-634-600-11
W004 4P
4 GND
3 4FRONT LED
2 4FRONT SW
1 +5V
TO FS-60 BOARD CN003


CN002 21P CENELEC
CE-11
1-636-206-11
D001 9.1EW
D002 9.1EW
D003 9.1EW
D004 9.1EW
R004 100k
R002 100k
R001 68
R003 68
S001
CN001 8P
1 MONITOR C OUT
2 GND
3 MONITOR Y OUT
4 MONITOR V OUT
5 GND
6 MONITOR AL OUT
7 GND
8 MONITOR AR OUT
TO VA-60 BOARD CN007

4-3. SEMICONDCUTORS

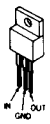
CXK1011P
MC14576AP
NJM2233PD



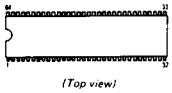
TC4066BPHB

1S119

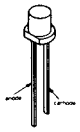
M5F78M06
M5F78M12



μPD75104CW



GL3KG47



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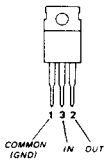

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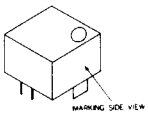

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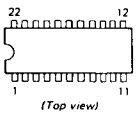
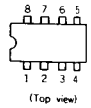
M52471P



DTC143TS

RD9.1E-W

NJM2234D



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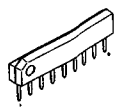
2SC2785-E
2SC2458

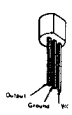
V09G

NJM2220S



2SB734-34

S-8054ALR



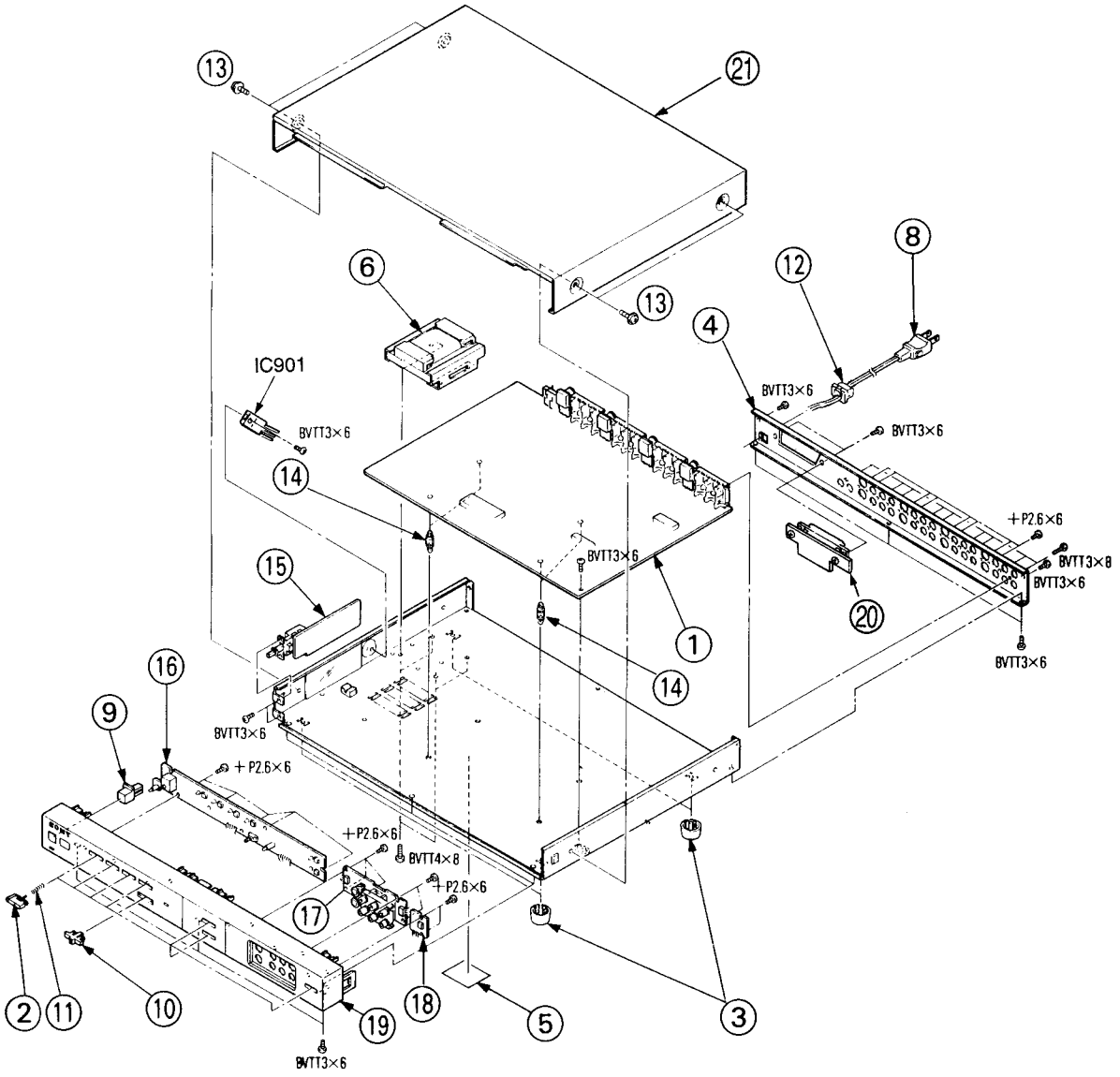
TC4053BPHB

EXPLODED VIEWS

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.



No.		Part No.	Description	Remark
1		*A-7071-077-A	VA-60 MOUNT	
2		X-2134-103-1	PUSH BUTTON (FL) ASSY	
3		X-3701-069-0	FOOT ASSY	
4		*2-186-026-01	REAR PANEL	
5		*2-186-025-01	NAME PLATE (J)	
6	⚠	.1-450-045-11	POWER TRANSFORMER	
7	⚠	.1-526-882-00	AC OUTLET	
8	⚠	.1-552-188-XX	POWER CORD	
9	⚠	.2-186-005-01	POWER BUTTON	
10		2-186-006-01	MODE SELECTION KNOB	
11		2-217-533-00	COMPRESSION COIL SPRING	
12	⚠	.3-703-571-11	CORD BUSHING (4516)	
13		4-847-802-00	CASE SETSCREW	
14		*4-835-627-00	FASTENER (A)	
15		*1-634-602-11	PW-95 BOARD	
16		*1-634-601-11	FS-60 BOARD	
17		*1-634-599-11	IO-42 BOARD	
18		*1-634-600-11	FS-61 BOARD	
19		A-7081-111-A	FRONT PANEL ASSY	
20		*1-636-206-11	CE-11 BOARD	
21		2-186-008-11	CASE, UPPER	

SECTION 6
ELECTRICAL PARTS LIST

IO-42 **FS-60** **FS-61** **PW-95**

NOTE:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohrns
  METAL : Metal-film resistor
  METAL OXIDE : Metal Oxide-film resistor
  F : nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, U : μ, for example :
  UA...: μA..., UPA...: μPA...,
  UPB...: μPB..., UPC...: μPC...,
  UPD...: μPD...
- CAPACITORS
  MF : μF, PF : μμF
- COILS
  MMH : mH, UH : μH

Ref.No.	Part No.	Description			Remark
	*1-634-599-11	IO-42 BOARD			
		**********			
		CAPACITOR			
C001	1-124-257-00	ELECT	2.2MF	20% 35V	
C002	1-161-051-00	CERAMIC	0.01MF	10% 25V	
C005	1-124-257-00	ELECT	2.2MF	20% 35V	
		DIODE			
D010	8-719-108-12	DIODE	RD9.1E-W		
D011	8-719-108-12	DIODE	RD9.1E-W		
D012	8-719-108-12	DIODE	RD9.1E-W		
D013	8-719-108-12	DIODE	RD9.1E-W		
D014	8-719-108-12	DIODE	RD9.1E-W		
D015	8-719-108-12	DIODE	RD9.1E-W		
D016	8-719-108-12	DIODE	RD9.1E-W		
D017	8-719-911-19	DIODE	ISS119		
D018	8-719-911-19	DIODE	ISS119		
D019	8-719-911-19	DIODE	ISS119		
		JACK			
J001	1-507-637-00	JACK, PIN (6P)			
J002	1-566-728-21	TERMINAL, S			
J003	1-566-728-21	TERMINAL, S			
		RESISTOR			
R018	1-247-804-11	CARBON	75	5% 1/4W	
R019	1-247-804-11	CARBON	75	5% 1/4W	
R022	1-247-804-11	CARBON	75	5% 1/4W	
**********					
	*1-634-601-11	FS-60 BOARD			
		**********			
	*3-697-607-01	HOLDER (SU), LED			
		DIODE			
D005	8-719-975-91	DIODE	GL3KG47		
D007	8-719-812-41	DIODE	GL3PR8		
		IC			
IC001	8-741-100-47	IC	SBX1610-09		
		RESISTOR			
R001	1-247-826-00	CARBON	620	5% 1/4W	
R002	1-247-826-00	CARBON	620	5% 1/4W	
R003	1-247-826-00	CARBON	620	5% 1/4W	
R004	1-247-826-00	CARBON	620	5% 1/4W	
R010	1-249-441-11	CARBON	100K	5% 1/4W	
R011	1-249-441-11	CARBON	100K	5% 1/4W	
R012	1-249-441-11	CARBON	100K	5% 1/4W	
R013	1-249-441-11	CARBON	100K	5% 1/4W	
R015	1-249-441-11	CARBON	100K	5% 1/4W	
R016	1-249-441-11	CARBON	100K	5% 1/4W	
R017	1-249-441-11	CARBON	100K	5% 1/4W	
		SWITCH			
S001	1-571-977-11	SWITCH, TACTIL			
S002	1-571-977-11	SWITCH, TACTIL			
S003	1-571-977-11	SWITCH, TACTIL			
S004	1-571-977-11	SWITCH, TACTIL			
S006	1-571-977-11	SWITCH, TACTIL			
S007	1-571-977-11	SWITCH, TACTIL			
S008	1-570-858-11	SWITCH, SLIDE			
**********					
	*1-634-600-11	FS-61 BOARD			
		**********			
		DIODE			
D006	8-719-812-41	DIODE GL3PR8			
		RESISTOR			
R006	1-247-826-00	CARBON	620	5% 1/4W	
R014	1-249-441-11	CARBON	100k	5% 1/4W	
		SWITCH			
S005	1-571-977-11	SWITCH, TACTIL			
**********					
	*1-634-602-11	PW-95 BOARD			
		**********			
	*1-533-189-11	HOLDER, FUSE			
S601 ⚠	1-570-052-11	SWITCH, PUSH (AC POWER)(1 KEY)			
		CAPACITOR			
C601 ⚠	1-136-537-11	FILM	0.47MF	20% 250V	
		CONNECTOR			
CN601	*1-568-226-11	PIN, CONNECTOR 2P			
		FILTER			
FL601 ⚠	1-421-765-11	FILTER, LINE			

CE-11 VA-60

Ref.No.	Part No.	Description	Remark
	*1-636-206-11	CE-11 BOARD **********	
S001	1-571-640-11	SWITCH, SLIDE	
		CONNECTOR	
CN001	1-506-487-11	PIN, CONNECTOR 8P	
CN002	1-561-534-41	SOCKET 21P	
		DIODE	
D001	8-719-108-12	DIODE RD9.1EW	
D002	8-719-108-12	DIODE RD9.1EW	
D003	8-719-108-12	DIODE RD9.1EW	
D004	8-719-108-12	DIODE RD9.1EW	
		RESISTOR	
R001	1-247-802-11	CARBON 62 5%	1/4W
R002	1-249-405-11	CARBON 100 5%	1/4W
R003	1-247-802-11	CARBON 62 5%	1/4W
R004	1-249-405-11	CARBON 100 5%	1/4W

Ref.No.	Part No.	Description	Remark
	*A-7071-245-A	VA-60 BOARD, COMPLETE **********	
		CAPACITOR	
C101	1-161-051-00	CERAMIC 0.01MF 10%	25V
C103	1-161-051-00	CERAMIC 0.01MF 10%	25V
C104	1-161-051-00	CERAMIC 0.01MF 10%	25V
C105	1-161-051-00	CERAMIC 0.01MF 10%	25V
C108	1-161-051-00	CERAMIC 0.01MF 10%	25V
C109	1-161-051-00	CERAMIC 0.01MF 10%	25V
C110	1-161-051-00	CERAMIC 0.01MF 10%	25V
C111	1-161-051-00	CERAMIC 0.01MF 10%	25V
C112	1-161-051-00	CERAMIC 0.01MF 10%	25V
C113	1-161-051-00	CERAMIC 0.01MF 10%	25V
C114	1-126-176-11	ELECT 220MF 20%	10V
C115	1-126-176-11	ELECT 220MF 20%	10V
C116	1-126-176-11	ELECT 220MF 20%	10V
C117	1-126-176-11	ELECT 220MF 20%	10V
C118	1-126-176-11	ELECT 220MF 20%	10V
C119	1-126-176-11	ELECT 220MF 20%	10V
C120	1-124-477-11	ELECT 47MF 20%	16V
C121	1-124-477-11	ELECT 47MF 20%	16V
C122	1-124-477-11	ELECT 47MF 20%	16V
C123	1-124-477-11	ELECT 47MF 20%	16V
C124	1-124-477-11	ELECT 47MF 20%	16V
C125	1-124-477-11	ELECT 47MF 20%	16V
C126	1-161-051-00	CERAMIC 0.01MF 10%	25V
C127	1-161-051-00	CERAMIC 0.01MF 10%	25V
C128	1-161-051-00	CERAMIC 0.01MF 10%	25V
C201	1-126-157-11	ELECT 10MF 20%	16V
C202	1-126-157-11	ELECT 10MF 20%	16V
C203	1-126-157-11	ELECT 10MF 20%	16V
C204	1-126-157-11	ELECT 10MF 20%	16V
C206	1-126-157-11	ELECT 10MF 20%	16V
C207	1-126-157-11	ELECT 10MF 20%	10V
C208	1-126-157-11	ELECT 10MF 20%	10V
C209	1-126-157-11	ELECT 10MF 20%	10V
C210	1-126-157-11	ELECT 10MF 20%	10V

Ref.No.	Part No.	Description	Remark
C211	1-126-157-11	ELECT 10MF 20%	10V
C212	1-126-157-11	ELECT 10MF 20%	10V
C213	1-126-176-11	ELECT 220MF 20%	10V
C214	1-126-176-11	ELECT 220MF 20%	10V
C215	1-126-176-11	ELECT 220MF 20%	10V
C216	1-126-176-11	ELECT 220MF 20%	10V
C217	1-126-176-11	ELECT 220MF 20%	10V
C218	1-126-176-11	ELECT 220MF 20%	10V
C219	1-124-360-00	ELECT 1000MF 20%	16V
C220	1-124-360-00	ELECT 1000MF 20%	16V
C221	1-124-360-00	ELECT 1000MF 20%	16V
C222	1-124-360-00	ELECT 1000MF 20%	16V
C223	1-124-360-00	ELECT 1000MF 20%	16V
C224	1-124-360-00	ELECT 1000MF 20%	16V
C301	1-126-157-11	ELECT 10MF 20%	16V
C303	1-126-157-11	ELECT 10MF 20%	16V
C304	1-126-157-11	ELECT 10MF 20%	16V
C305	1-126-157-11	ELECT 10MF 20%	16V
C307	1-126-157-11	ELECT 10MF 20%	10V
C308	1-126-157-11	ELECT 10MF 20%	10V
C309	1-126-157-11	ELECT 10MF 20%	10V
C310	1-126-157-11	ELECT 10MF 20%	10V
C311	1-126-157-11	ELECT 10MF 20%	10V
C312	1-126-157-11	ELECT 10MF 20%	10V
C313	1-126-176-11	ELECT 220MF 20%	10V
C314	1-126-176-11	ELECT 220MF 20%	10V
C315	1-126-176-11	ELECT 220MF 20%	10V
C316	1-126-176-11	ELECT 220MF 20%	10V
C317	1-126-176-11	ELECT 220MF 20%	10V
C318	1-126-176-11	ELECT 220MF 20%	10V
C319	1-124-360-00	ELECT 1000MF 20%	16V
C320	1-124-360-00	ELECT 1000MF 20%	16V
C321	1-124-360-00	ELECT 1000MF 20%	16V
C322	1-124-360-00	ELECT 1000MF 20%	16V
C323	1-124-360-00	ELECT 1000MF 20%	16V
C324	1-124-360-00	ELECT 1000MF 20%	16V
C325	1-124-239-00	ELECT 6.8MF 20%	16V
C326	1-161-039-00	CERAMIC 0.001MF 10%	25V
C327	1-161-039-00	CERAMIC 0.001MF 10%	25V
C328	1-126-162-11	ELECT 3.3MF 20%	25V
C329	1-126-162-11	ELECT 3.3MF 20%	25V
C330	1-126-157-11	ELECT 10MF 20%	16V
C331	1-126-157-11	ELECT 10MF 20%	16V
C401	1-126-157-11	ELECT 10MF 20%	16V
C402	1-126-157-11	ELECT 10MF 20%	16V
C403	1-126-157-11	ELECT 10MF 20%	16V
C404	1-126-157-11	ELECT 10MF 20%	16V
C405	1-126-157-11	ELECT 10MF 20%	16V
C406	1-126-157-11	ELECT 10MF 20%	16V
C411	1-126-157-11	ELECT 10MF 20%	16V
C412	1-126-157-11	ELECT 10MF 20%	16V
C413	1-126-157-11	ELECT 10MF 20%	16V
C414	1-126-157-11	ELECT 10MF 20%	16V
C415	1-126-162-11	ELECT 3.3MF 20%	25V
C416	1-126-162-11	ELECT 3.3MF 20%	25V
C420	1-124-257-00	2.2MF 20%	35V
C421	1-124-257-00	2.2MF 20%	35V
C501	1-124-446-11	ELECT 47MF 20%	10V
C502	1-126-103-11	ELECT 470MF 20%	16V
C503	1-102-959-00	CERAMIC 22PF 10%	50V

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description			Remark
C504	1-161-051-00	CERAMIC	0.01MF	10%	25V
C505	1-161-772-11	CERAMIC	0.1MF	10%	25V
C506	1-124-234-01	ELECT	22MF	20%	16V
C507	1-126-157-11	ELECT	10MF	20%	16V
C508	1-124-963-11	ELECT	33MF	20%	16V
C509	1-161-051-00	CERAMIC	0.01MF	10%	25V
C510	1-101-884-00	CERAMIC	56PF	10%	50V
C517	1-126-157-11	ELECT	10MF	20%	16V
C018	1-126-101-11	ELECT	100MF	20%	16V
C520		ELECT	10MF		
C521	1-124-360-00	ELECT	1000MF	20%	16V
C901	1-126-944-11	ELECT	3300MF	20%	25V
C902	1-126-101-11	ELECT	100MF	20%	16V
C903	1-126-101-11	ELECT	100MF	20%	16V
C905	1-126-101-11	ELECT	100MF	20%	16V
C906	1-124-446-11	ELECT	47MF	20%	10V
C907	1-161-051-00	CERAMIC	0.01MF	10%	25V
C908	1-164-057-11	CERAMIC	30PF	5%	50V
C909	1-164-057-11	CERAMIC	30PF	5%	50V
C910	1-161-772-11	CERAMIC	0.1MF	10%	25V
C911	1-124-473-11	ELECT	1000MF	20%	10V
C912	1-161-772-11	CERAMIC	0.1MF	10%	25V
C913	1-124-360-00	ELECT	1000MF	20%	16V
C914	1-124-360-00	ELECT	1000MF	20%	16V
C915	1-124-120-11	ELECT	220MF	20%	16V
C916	1-124-120-11	ELECT	220MF	20%	16V
C917	1-124-120-11	ELECT	220MF	20%	16V
C918	1-124-120-11	ELECT	220MF	20%	16V
C919	1-161-772-11	CERAMIC	0.1MF	10%	25V

CONNECTOR

CN001	*1-564-030-00	CONNECTOR PIN 5P	
CN002	*1-568-276-11	CONNECTOR SOCKET 10P	
CN003	1-568-785-11	CONNECTOR PIN 8P	
CN004	1-568-785-21	CONNECTOR PIN 8P	
CN005	*1-568-276-11	CONNECTOR SOCKET 10P	
CN006	1-506-467-11	CONNECTOR PIN 2P	
CN007		CONNECTOR PIN 8P	

DIODE

D101	8-719-911-19	DIODE	ISS119
D103	8-719-911-19	DIODE	ISS119
D104	8-719-108-12	DIODE	RD9.1E-W
D105	8-719-108-12	DIODE	RD9.1E-W
D106	8-719-108-12	DIODE	RD9.1E-W
D107	8-719-108-12	DIODE	RD9.1E-W
D108	8-719-108-12	DIODE	RD9.1E-W
D112	8-719-911-19	DIODE	ISS119
D113	8-719-911-19	DIODE	ISS119
D201	8-719-911-19	DIODE	ISS119
D202	8-719-911-19	DIODE	ISS119
D203	8-719-911-19	DIODE	ISS119
D204	8-719-911-19	DIODE	ISS119
D205	8-719-108-12	DIODE	RD9.1E-W
D206	8-719-108-12	DIODE	RD9.1E-W

Ref.No.	Part No.	Description		Remark
D207	8-719-108-12	DIODE	RD9.1E-W	
D208	8-719-108-12	DIODE	RD9.1E-W	
D210	8-719-108-12	DIODE	RD9.1E-W	
D301	8-719-911-19	DIODE	ISS119	
D303	8-719-911-19	DIODE	ISS119	
D304	8-719-108-12	DIODE	RD9.1E-W	
D305	8-719-108-12	DIODE	RD9.1E-W	
D306	8-719-108-12	DIODE	RD9.1E-W	
D307	8-719-108-12	DIODE	RD9.1E-W	
D308	8-719-108-12	DIODE	RD9.1E-W	
D310	8-719-911-19	DIODE	ISS119	
D312	8-719-911-19	DIODE	ISS119	
D401	8-719-911-19	DIODE	ISS119	
D402	8-719-911-19	DIODE	ISS119	
D403	8-719-911-19	DIODE	ISS119	
D404	8-719-911-19	DIODE	ISS119	
D405	8-719-911-19	DIODE	ISS119	
D406	8-719-911-19	DIODE	ISS119	
D407	8-719-108-12	DIODE	RD9.1E-W	
D408	8-719-108-12	DIODE	RD9.1E-W	
D409	8-719-108-12	DIODE	RD9.1E-W	
D410	8-719-108-12	DIODE	RD9.1E-W	
D411	8-719-108-12	DIODE	RD9.1E-W	
D412	8-719-108-12	DIODE	RD9.1E-W	
D413	8-719-108-12	DIODE	RD9.1E-W	
D414	8-719-108-12	DIODE	RD9.1E-W	
D415	8-719-108-12	DIODE	RD9.1E-W	
D416	8-719-108-12	DIODE	RD9.1E-W	
D419	8-719-108-12	DIODE	RD9.1E-W	
D420	8-719-108-12	DIODE	RD9.1E-W	
D421	8-719-108-12	DIODE	RD9.1E-W	
D422	8-719-108-12	DIODE	RD9.1E-W	
D901 ⚠	8-719-900-95	DIODE	V06C	
D902 ⚠	8-719-900-95	DIODE	V06C	
D903 ⚠	8-719-900-95	DIODE	V06C	
D904 ⚠	8-719-900-95	DIODE	V06C	
D907	8-719-911-19	DIODE	ISS119	
D909 ⚠	8-719-900-95	DIODE	V06C	
D910 ⚠	8-719-900-95	DIODE	V06C	
D911 ⚠	8-719-900-95	DIODE	V06C	
D912 ⚠	8-719-900-95	DIODE	V06C	

DELAY LINE

DL502	1-415-745-11	DELAY LINE

FILTER

FL501	1-235-496-11	PB C BPF
FL502	1-466-162-22	BLOCK, COM FILTER (CFB-4)

IC

IC101	8-759-634-70	IC M52471P
IC102	8-759-710-85	IC NJM2233BD
IC103	8-759-710-85	IC NJM2233BD
IC104	8-759-208-14	IC TC4066BPHB
IC105	8-759-208-14	IC TC4066BPHB

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

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Ref.No.	Part No.	Description	Remark
IC106	8-759-030-67	IC MC14576AP	
IC107	8-759-030-67	IC MC14576AP	
IC108	8-759-030-67	IC MC14576AP	
IC201	8-759-710-40	IC NJM2234D	
IC202	8-759-710-40	IC NJM2234D	
IC203	8-759-208-14	IC TC4066BPHB	
IC204	8-759-208-14	IC TC4066BPHB	
IC205	8-759-030-67	IC MC14576AP	
IC206	8-759-030-67	IC MC14576AP	
IC207	8-759-030-67	IC MC14576AP	
IC301	8-759-710-40	IC NJM2234D	
IC302	8-759-710-40	IC NJM2234D	
IC303	8-759-208-14	IC TC4066BPHB	
IC304	8-759-208-14	IC TC4066BPHB	
IC305	8-759-030-67	IC MC14576AP	
IC306	8-759-030-67	IC MC14576AP	
IC307	8-759-030-67	IC MC14576AP	
IC308	8-759-711-41	IC NJM2220S	
IC401	8-759-208-10	IC TC4053BPHB	
IC402	8-759-208-10	IC TC4053BPHB	
IC403	8-759-208-10	IC TC4053BPHB	
IC404	8-759-208-10	IC TC4053BPHB	
IC405	8-759-208-10	IC TC4053BPHB	
IC501	8-759-710-85	IC NJM2233BD	
IC901 ⚠	8-759-604-39	IC M5F78M12	
IC902	8-759-148-57	IC UPD75104CW	
IC903	8-752-330-59	IC CXK1011P	
IC904	8-759-972-63	IC S-8054ALR	
IC905 ⚠	8-759-604-99	IC M5F78M06L	
IC906 ⚠	8-759-604-94	IC M5F79M06L	
		JACK	
J001	*1-563-524-11	PIN JACK 6P	
J002	*1-563-524-11	PIN JACK 6P	
J003	*1-563-524-11	PIN JACK 6P	
J004	*1-563-524-11	PIN JACK 6P	
J005		PIN JACK 6P	
J006	1-565-406-31	PIN JACK 1P	
J007	1-569-663-11	S TERMINAL	
J008	1-569-663-11	S TERMINAL	
J009	1-569-663-11	S TERMINAL	
J010	1-569-663-11	S TERMINAL	
J011	1-569-663-11	S TERMINAL	
J012	1-569-663-11	S TERMINAL	
J013	1-569-663-11	S TERMINAL	
J014	1-569-663-11	S TERMINAL	
J015	1-569-663-11	S TERMINAL	
		COIL	
L901	1-410-666-31	INDUCTOR 18UH	
L902	1-410-671-31	INDUCTOR 47UH	
L903	1-410-671-31	INDUCTOR 47UH	
		TRANSISTOR	
Q101	8-729-119-78	2SC2785-HFE	
Q201	8-729-119-78	2SC2785-HFE	
Q301	8-729-119-76	2SA1175-HFE	
Q401	8-729-178-55	2SC2785-E (28)	
Q402	8-729-119-76	2SA1175-HFE	
Q403	8-729-178-55	2SC2785-E (28)	
Q404	8-729-119-76	2SA1175-HFE	
Q405	8-729-900-89	DTC144ES	
Q406	8-729-900-89	DTC144ES	
Q501	8-729-119-78	2SC2785-HFE	
Q502	8-729-119-78	2SC2785-HFE	
Q503	8-729-119-78	2SC2785-HFE	
Q504	8-729-119-78	2SC2785-HFE	
Q505	8-729-119-78	2SC2785-HFE	
Q506	8-729-119-78	2SC2785-HFE	
Q507	8-729-119-78	2SC2785-HFE	
Q508	8-729-119-78	2SC2785-HFE	
Q510	8-729-119-78	2SC2785-HFE	
Q901 ⚠	8-729-140-97	2SB734-34	
Q902	8-729-900-74	DTC143TS	
Q903	8-729-900-80	DTC114ES	
Q904	8-729-900-80	DTC114ES	
		RESISTOR	
R101	1-247-804-11	CARBON 75 5% 1/4W	
R102	1-247-804-11	CARBON 75 5% 1/4W	
R103	1-247-804-11	CARBON 75 5% 1/4W	
R104	1-247-804-11	CARBON 75 5% 1/4W	
R105	1-249-437-11	CARBON 47K 5% 1/4W	
R106	1-249-437-11	CARBON 47K 5% 1/4W	
R107	1-249-437-11	CARBON 47K 5% 1/4W	
R108	1-249-437-11	CARBON 47K 5% 1/4W	
R109	1-249-437-11	CARBON 47K 5% 1/4W	
R110	1-249-437-11	CARBON 47K 5% 1/4W	
R111	1-249-437-11	CARBON 47K 5% 1/4W	
R112	1-249-437-11	CARBON 47K 5% 1/4W	
R113	1-249-437-11	CARBON 47K 5% 1/4W	
R114	1-249-437-11	CARBON 47K 5% 1/4W	
R115	1-249-437-11	CARBON 47K 5% 1/4W	
R116	1-249-437-11	CARBON 47K 5% 1/4W	
R117	1-249-441-11	CARBON 100K 5% 1/4W	
R118	1-247-802-11	CARBON 62 5% 1/4W	
R119	1-249-441-11	CARBON 100K 5% 1/4W	
R120	1-247-802-11	CARBON 62 5% 1/4W	
R121	1-249-441-11	CARBON 100K 5% 1/4W	
R122	1-247-802-11	CARBON 62 5% 1/4W	
R123	1-249-441-11	CARBON 100K 5% 1/4W	
R124	1-247-802-11	CARBON 62 5% 1/4W	
R125	1-249-441-11	CARBON 100K 5% 1/4W	
R126	1-247-802-11	CARBON 62 5% 1/4W	
R127	1-247-802-11	CARBON 62 5% 1/4W	
R128	1-249-409-11	CARBON 220 5% 1/4W	
R129		CARBON 680 5% 1/2W	
R132	1-249-441-11	CARBON 100K 5% 1/4W	
R133	1-249-417-11	CARBON 1K 5% 1/4W	
R134	1-249-417-11	CARBON 1K 5% 1/4W	
R135	1-249-417-11	CARBON 1K 5% 1/4W	
R136	1-249-417-11	CARBON 1K 5% 1/4W	
R137	1-249-417-11	CARBON 1K 5% 1/4W	
R138	1-249-417-11	CARBON 1K 5% 1/4W	
R201	1-247-804-11	CARBON 75 5% 1/4W	
R202	1-247-804-11	CARBON 75 5% 1/4W	
R203	1-247-804-11	CARBON 75 5% 1/4W	
R204	1-247-804-11	CARBON 75 5% 1/4W	

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Replace only with part number specified.

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description			Remark
R205	1-249-437-11	CARBON	47K	5%	1/4W
R206	1-249-437-11	CARBON	47K	5%	1/4W
R207	1-249-437-11	CARBON	47K	5%	1/4W
R208	1-249-437-11	CARBON	47K	5%	1/4W
R209	1-249-437-11	CARBON	47K	5%	1/4W
R210	1-249-437-11	CARBON	47K	5%	1/4W
R211	1-249-437-11	CARBON	47K	5%	1/4W
R212	1-249-437-11	CARBON	47K	5%	1/4W
R213	1-249-437-11	CARBON	47K	5%	1/4W
R214	1-249-437-11	CARBON	47K	5%	1/4W
R215	1-249-437-11	CARBON	47K	5%	1/4W
R216	1-249-437-11	CARBON	47K	5%	1/4W
R217	1-249-441-11	CARBON	100K	5%	1/4W
R218	1-247-802-11	CARBON	62	5%	1/4W
R219	1-249-441-11	CARBON	100K	5%	1/4W
R220	1-247-802-11	CARBON	62	5%	1/4W
R221	1-249-441-11	CARBON	100K	5%	1/4W
R222	1-247-802-11	CARBON	62	5%	1/4W
R223	1-249-441-11	CARBON	100K	5%	1/4W
R224	1-247-802-11	CARBON	62	5%	1/4W
R225	1-249-441-11	CARBON	100K	5%	1/4W
R226	1-247-802-11	CARBON	62	5%	1/4W
R227	1-247-802-11	CARBON	62	5%	1/4W
R228	1-249-409-11	CARBON	220	5%	1/4W
R229		CARBON	680	5%	1/2W
R230	1-249-421-11	CARBON	2.2K	5%	1/4W
R232	1-249-441-11	CARBON	100K	5%	1/4W
R233	1-249-421-11	CARBON	2.2K	5%	1/4W
R234	1-249-421-11	CARBON	2.2K	5%	1/4W
R235	1-249-421-11	CARBON	2.2K	5%	1/4W
R236	1-249-421-11	CARBON	2.2K	5%	1/4W
R237	1-249-421-11	CARBON	2.2K	5%	1/4W
R238	1-249-421-11	CARBON	2.2K	5%	1/4W
R239	1-249-421-11	CARBON	2.2K	5%	1/4W
R240	1-247-421-11	CARBON	2.2K	5%	1/4W
R241	1-247-421-11	CARBON	2.2K	5%	1/4W
R243	1-247-421-11	CARBON	2.2K	5%	1/4W
R301	1-247-804-11	CARBON	75	5%	1/4W
R302	1-247-804-11	CARBON	75	5%	1/4W
R303	1-247-804-11	CARBON	75	5%	1/4W
R304	1-247-804-11	CARBON	75	5%	1/4W
R305	1-249-437-11	CARBON	47K	5%	1/4W
R306	1-249-437-11	CARBON	47K	5%	1/4W
R307	1-249-437-11	CARBON	47K	5%	1/4W
R308	1-249-437-11	CARBON	47K	5%	1/4W
R309	1-249-437-11	CARBON	47K	5%	1/4W
R310	1-249-437-11	CARBON	47K	5%	1/4W
R311	1-249-437-11	CARBON	47K	5%	1/4W
R312	1-249-437-11	CARBON	47K	5%	1/4W
R313	1-249-437-11	CARBON	47K	5%	1/4W
R314	1-249-437-11	CARBON	47K	5%	1/4W
R315	1-249-437-11	CARBON	47K	5%	1/4W
R316	1-249-437-11	CARBON	47K	5%	1/4W
R317	1-247-802-11	CARBON	62	5%	1/4W
R318	1-249-441-11	CARBON	100K	5%	1/4W

Ref.No.	Part No.	Description			Remark
R319	1-247-802-11	CARBON	62	5%	1/4W
R320	1-249-441-11	CARBON	100K	5%	1/4W
R321	1-247-802-11	CARBON	62	5%	1/4W
R322	1-249-441-11	CARBON	100K	5%	1/4W
R323	1-247-802-11	CARBON	62	5%	1/4W
R324	1-249-441-11	CARBON	100K	5%	1/4W
R325	1-247-802-11	CARBON	62	5%	1/4W
R326	1-249-441-11	CARBON	100K	5%	1/4W
R327	1-247-802-11	CARBON	62	5%	1/4W
R328	1-247-887-00	CARBON	220K	5%	1/4W
R329	1-249-429-11	CARBON	10K	5%	1/4W
R330	1-249-433-11	CARBON	22K	5%	1/4W
R331	1-249-429-11	CARBON	10K	5%	1/4W
R332	1-249-441-11	CARBON	100K	5%	1/4W
R333	1-249-421-11	CARBON	2.2K	5%	1/4W
R334	1-249-421-11	CARBON	2.2K	5%	1/4W
R335	1-249-421-11	CARBON	2.2K	5%	1/4W
R336	1-249-421-11	CARBON	2.2K	5%	1/4W
R337	1-249-421-11	CARBON	2.2K	5%	1/4W
R338	1-249-421-11	CARBON	2.2K	5%	1/4W
R339	1-249-421-11	CARBON	2.2K	5%	1/4W
R340	1-249-421-11	CARBON	2.2K	5%	1/4W
R341	1-249-421-11	CARBON	2.2K	5%	1/4W
R342	1-249-421-11	CARBON	2.2K	5%	1/4W
R345	1-249-421-11	CARBON	2.2K	5%	1/4W
R346	1-249-421-11	CARBON	2.2K	5%	1/4W
R347	1-249-421-11	CARBON	2.2K	5%	1/4W
R401	1-247-887-00	CARBON	220K	5%	1/4W
R402	1-247-887-00	CARBON	220K	5%	1/4W
R403	1-247-887-00	CARBON	220K	5%	1/4W
R404	1-247-887-00	CARBON	220K	5%	1/4W
R405	1-247-887-00	CARBON	220K	5%	1/4W
R406	1-247-887-00	CARBON	220K	5%	1/4W
R409	1-249-433-11	CARBON	22K	5%	1/4W
R410	1-215-442-00	METAL	7.5K	1%	1/6W
R411	1-249-405-11	CARBON	100	5%	1/4W
R412	1-249-405-11	CARBON	100	5%	1/4W
R413	1-249-433-11	CARBON	22K	5%	1/4W
R414	1-249-433-11	CARBON	22K	5%	1/4W
R415	1-215-442-00	METAL	7.5K	1%	1/6W
R416	1-249-405-11	CARBON	100	5%	1/4W
R417	1-249-405-11	CARBON	100	5%	1/4W
R418	1-249-433-11	CARBON	22K	5%	1/4W
R419	1-249-437-11	CARBON	47K	5%	1/4W
R420	1-249-437-11	CARBON	47K	5%	1/4W
R421	1-249-421-11	CARBON	2.2K	5%	1/4W
R423	1-249-421-11	CARBON	2.2K	5%	1/4W
R425	1-249-421-11	CARBON	2.2K	5%	1/4W
R427	1-249-421-11	CARBON	2.2K	5%	1/4W
R429	1-249-421-11	CARBON	2.2K	5%	1/4W
R431	1-249-421-11	CARBON	2.2K	5%	1/4W
R433	1-249-421-11	CARBON	2.2K	5%	1/4W
R435	1-249-421-11	CARBON	2.2K	5%	1/4W
R437	1-249-421-11	CARBON	2.2K	5%	1/4W
R439	1-249-421-11	CARBON	2.2K	5%	1/4W

When indicating parts by reference number, please include the board name.

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Ref.No.	Part No.	Description			Remark
R441	1-249-421-11	CARBON	2.2K	5%	1/4W
R443	1-249-421-11	CARBON	2.2K	5%	1/4W
R445	1-249-421-11	CARBON	2.2K	5%	1/4W
R446	1-249-437-11	CARBON	47K	5%	1/4W
R447	1-249-421-11	CARBON	2.2K	5%	1/4W
R448	1-249-437-11	CARBON	47K	5%	1/4W
R450	1-247-887-00	CARBON	220K	5%	1/4W
R451	1-247-887-00	CARBON	220K	5%	1/4W
R452	1-249-421-11	CARBON	2.2K	5%	1/4W
R453	1-249-421-11	CARBON	2.2K	5%	1/4W
R501	1-249-413-11	CARBON	470	5%	1/4W
R502	1-249-417-11	CARBON	1K	5%	1/4W
R503	1-249-417-11	CARBON	1K	5%	1/4W
R504	1-249-417-11	CARBON	1K	5%	1/4W
R505	1-249-417-11	CARBON	1K	5%	1/4W
R506	1-249-421-11	CARBON	2.2K	5%	1/4W
R507	1-249-417-11	CARBON	1K	5%	1/4W
R508	1-249-417-11	CARBON	1K	5%	1/4W
R509	1-249-418-11	CARBON	1.2K	5%	1/4W
R510	1-249-422-11	CARBON	2.7K	5%	1/4W
R511	1-249-430-11	CARBON	12K	5%	1/4W
R512	1-249-430-11	CARBON	12K	5%	1/4W
R513	1-249-417-11	CARBON	1K	5%	1/4W
R514	1-247-830-11	CARBON	910	5%	1/4W
R515	1-249-417-11	CARBON	1K	5%	1/4W
R516	1-249-421-11	CARBON	2.2K	5%	1/4W
R517	1-249-428-11	CARBON	8.2K	5%	1/4W
R518	1-249-438-11	CARBON	56K	5%	1/4W
R519	1-249-417-11	CARBON	1K	5%	1/4W
R520	1-249-430-11	CARBON	12K	5%	1/4W
R521	1-249-432-11	CARBON	18K	5%	1/4W
R522	1-249-417-11	CARBON	1K	5%	1/4W
R523	1-249-418-11	CARBON	1.2K	5%	1/4W
R524	1-247-891-00	CARBON	330K	5%	1/4W
R525	1-249-437-11	CARBON	47K	5%	1/4W
R526	1-249-437-11	CARBON	47K	5%	1/4W
R527	1-249-417-11	CARBON	1K	5%	1/4W
R528	1-249-409-11	CARBON	220	5%	1/4W
R529	1-249-415-11	CARBON	680	5%	1/4W
R530		FUSIBLE	10		
R531	1-249-405-11	CARBON	100	5%	1/4W
R532	1-249-407-11	CARBON	150	5%	1/4W
R901	1-249-417-11	CARBON	1K	5%	1/4W
R902 ⚠	1-213-139-11	METAL	470	5%	1W F
R905	1-249-437-11	CARBON	47K	5%	1/4W
R907	1-249-429-11	CARBON	10K	5%	1/4W
R908	1-249-441-11	CARBON	100K	5%	1/4W
R909	1-249-441-11	CARBON	100K	5%	1/4W
R910	1-249-441-11	CARBON	100K	5%	1/4W
R911	1-249-441-11	CARBON	100K	5%	1/4W
R912	1-249-441-11	CARBON	100K	5%	1/4W
R913	1-249-441-11	CARBON	100K	5%	1/4W
R914 ⚠	1-212-849-00	FUSE	4.7	5%	1/4W F
R915	1-249-425-11	CARBON	4.7K	5%	1/4W
R916	1-249-425-11	CARBON	4.7K	5%	1/4W
R917	1-249-425-11	CARBON	4.7K	5%	1/4W
R918	1-249-425-11	CARBON	4.7K	5%	1/4W
R919	1-249-437-11	CARBON	47K	5%	1/4W
R920	1-249-419-11	CARBON	1.5K	5%	1/4W
R921	1-249-416-11	CARBON	820	5%	1/4W

VARIABLE RESISTOR

RV501	1-228-993-00	RES, ADJ, CARBON 4.7K

CERAMIC VIBRATOR

X901	1-567-170-00	OSCILLATOR, CERAMIC

****

MISCELLANEOUS

****

⚠	1-450-199-11	TRANSFORMER, POWER
⚠	1-526-882-00	CONNECTOR, AC OUTLET
⚠	1-551-188-XX	CORD, POWER

****

ACCESSORIES AND PACKING MATERIALS

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Ref.No.	Part No.	Description	Remark
	1-465-461-11	REMOTE CONTROL (RMT-520)	
	*2-119-119-01	CUSHION (RIGHT)	
	*2-119-120-01	CUSHION (LEFT)	
	2-143-111-31	PACKAGE CARTON	
	3-677-503-00	PROTECTIVE SHEET	
	3-751-535-11	INSTRUCTION MANUAL (ENGLISH, FRENCH, SPANISH, GERMAN, DUTCH, SWEDISH, ITALIAN, ARABIC)	
	*4-912-901-01	PROTECTIVE BAG	

- HARDWARE LIST

TAPPING SCREW

7-685-133-19	TPG +P 2.6x6
7-685-135-19	TPG +P 2.6x10
7-685-646-79	+BV 3x8

SCREW

7-682-547-04	SCREW +B 3x6 (SWCH, CR-N)
7-682-547-09	SCREW +B 3x6 (SWCH, BZN-N)
7-682-561-09	SCREW +B 4x8

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.